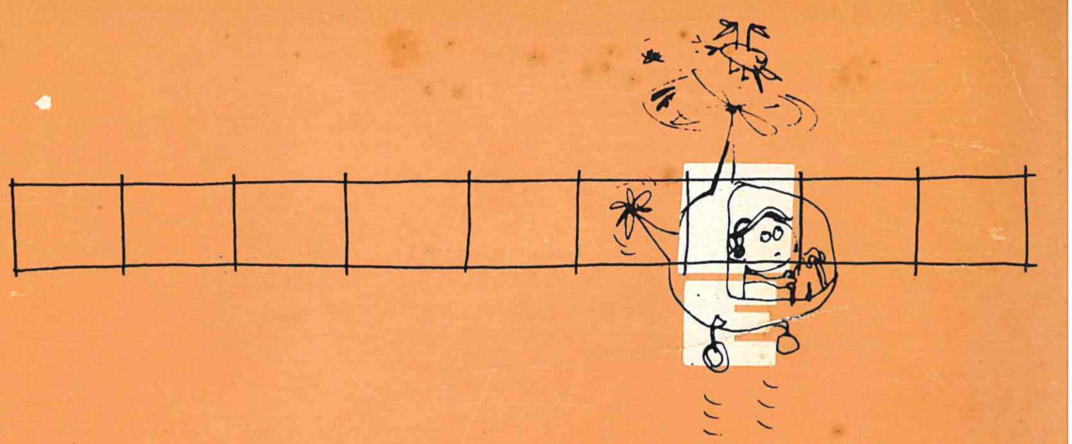

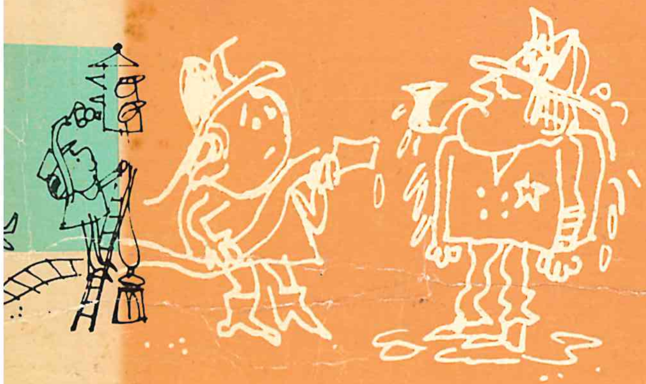

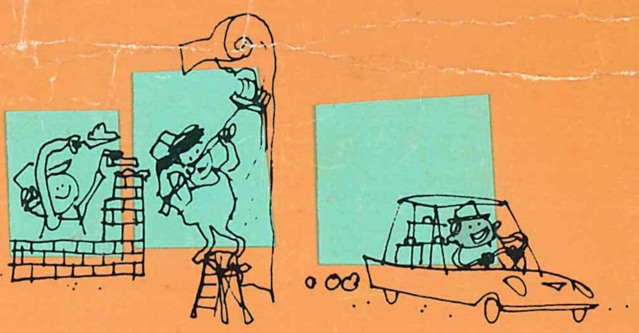

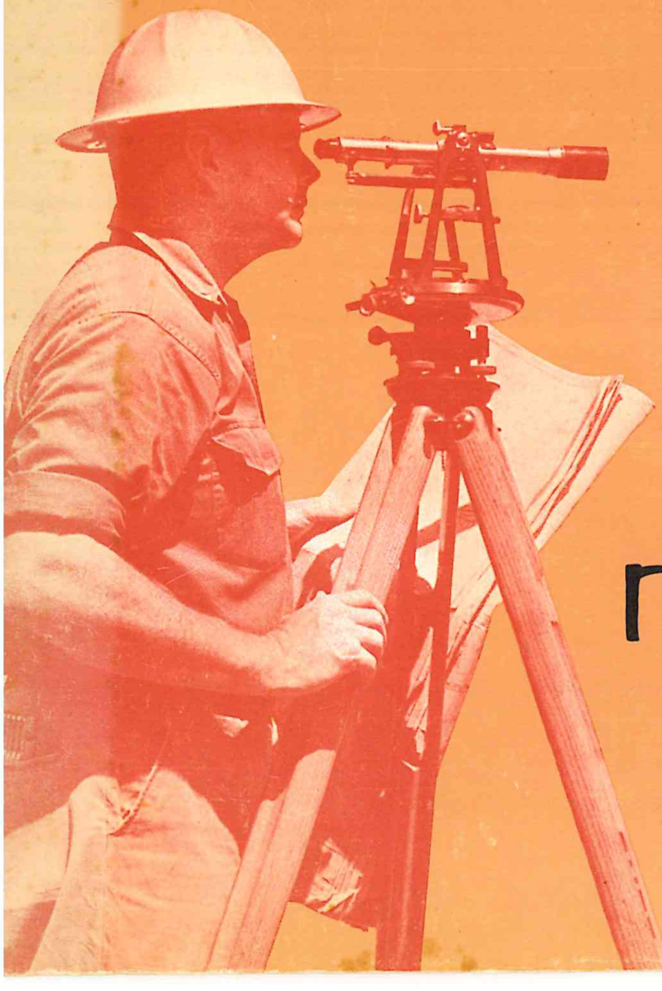

Explorations in mastering mathematics

Explorations in mastering mathematics E

Otto S. Schmidtmann
District Mathematics Coordinator
Board of Education of the City of New York

George Grossman, General Editor
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COMPLIMENTARY
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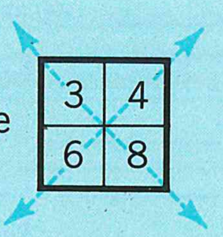
1	2	3	4	5	6	7	8	9
2	4	6	8	10	12	14	16	18
3	6	9	12	15	18	21	24	27
4	8	12	16	20	24	28	32	36
5	10	15	20	25	30	35	40	45
6	12	18	24	30	36	42	48	54
7	14	21	28	35	42	49	56	63
8	16	24	32	40	48	56	64	72
9	18	27	36	45	54	63	72	81

Complete the patterns. Show how you can use the chart.

1, 2, 3, ____, ____, ____, ____, ____, . . .
3, 6, 9, ____, ____, ____, ____, ____, . . .
8, 16, 24, ____, ____, ____, ____, . . .
1, 4, 9, ____, ____, ____, ____, ____, . . .
2, 6, 12, 20, ____, ____, ____, ____, . . .
3, 8, 15, ____, ____, 48, ____, . . .
9, 16, 21, ____, ____, ____, 21, 16, 9

In this 2 × 2 square



3 × 8 = 4 × 6.
24 = 24.

Fill in.

4	6
6	9

4 × ☐ = 6 × ◯
____ = ____

8	10
12	15

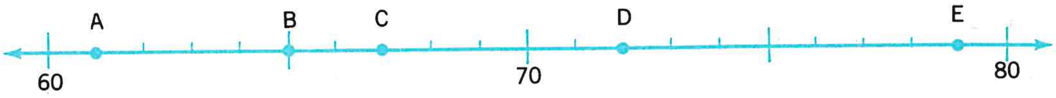
____ × ____ = ____ × ____
____ = ____

49	56
56	64

Does 56 × 56 = 49 × 64? ______

Try other 2 × 2 squares.

Nearest ten



Fill in. A = 61 B = ______ C = ______ D = ______ E = ______

66 is between 60 and 70, but is closer to 70.

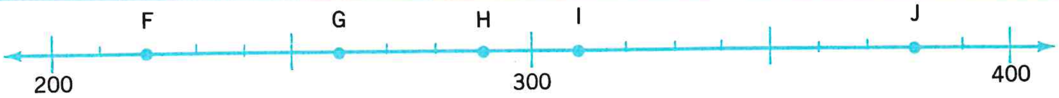
78 is between ______ and ______, but is closer to ______.

63 is between ______ and ______, but is closer to ______.

74 is between ______ and ______, but is closer to ______.

76 is between ______ and ______, but is closer to ______.

Nearest hundred



Fill in. F = 220 G = ______ H = ______ I = ______ J = ______

220 is between 200 and 300, but is closer to 200.

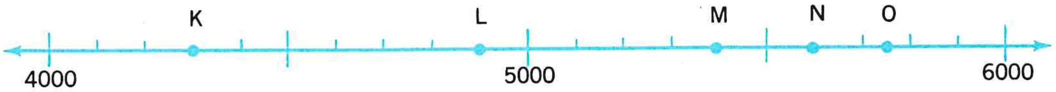
290 is between ______ and ______, but is closer to ______.

341 is between ______ and ______, but is closer to ______.

359 is between ______ and ______, but is closer to ______.

249 is between ______ and ______, but is closer to ______.

Nearest thousand



Fill in. K = 4300 L = ______ M = ______ N = ______ O = ______

5400 is between 5000 and 6000, but is closer to 5000.

4600 is between ______ and ______, but is closer to ______.

5700 is between ______ and ______, but is closer to ______.

4190 is between ______ and ______, but is closer to ______.

5812 is between ______ and ______, but is closer to ______.

Fill in.	Nearest thousand	Nearest hundred	Nearest ten
1736	2000	1700	1740
3172			
8498			
4264			

Write the whole number before and after.

35 36 37
____ 59 ____
____ 99 ____

____ 109 ____
____ 490 ____
____ 900 ____

____ 999 ____
____ 9009 ____
____ 9000 ____

Millions	Thousands					
Ones	Hundreds	Tens	Ones	Hundreds	Tens	Ones

Write in numerals.

Forty-seven ____
One hundred thirteen ____
Five hundred fifty ____
Five thousand six hundred forty-two ____
Sixteen hundred twenty-four ____
Thirty-two thousand six hundred twenty-four ____
Four hundred sixteen thousand two hundred nineteen ____
One million eight hundred thirty-seven thousand ____
Six hundred seven thousand fifty ____
Four million five hundred thousand two ____

Roman numerals

I = 1
V = 5
X = 10
L = 50
C = 100
D = 500
M = 1000

IV = 4
IX = 9
XL = 40
CD = 400
VI = 6
XI = 11
LX = 60
DC = 600

Write each numeral.

IV 4
XXXI ____
XIV ____
CCLX ____

MCM ____
XXVII ____
LXIX ____

9 IX
34 ____
53 ____
700 ____

170 ____
44 ____
470 ____

5 + 92 = 92 + 5

9 + 6 = 6 + ______

23 + 18 = ______ + 23

41 + 805 = 805 + ______

______ + 73 = 73 + 427

☐ + △ = △ + ______

39 + 0 = ______ + 39

678 + 321 = 321 + ______

______ + 2000 = 2000 + 5

1216 + ______ = 5000 + 1216

16 + (4 + 3) = (16 + 4) + 3

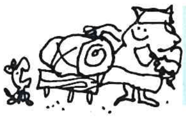
38 + (2 + 7) = (38 + 2) + 7
= 40 + 7
= ______

85 + (5 + 3) = (85 + ______) + 3
= ______ + ______
= ______

266 + (4 + 5) = (______ + 4) + ______
= ______ + ______
= ______

347 + (3 + 6) = ______ + ______
= ______ + ______
= ______

☐ + (△ + ○) = (☐ + ______) + ○



25 + 5 = 30   30 − 5 = 25

8 + 5 = ☐   ☐ − 5 = 8
28 + 5 = ☐   ☐ − 5 = 28
43 + 9 = ☐   ☐ − 9 = 43

☐ + 6 = 23   23 − 6 = ☐
☐ + 8 = 42   42 − 8 = ☐
☐ + 7 = 76   76 − 7 = ☐

678 + 0 = 0 + 678 = 678

5 + 0 = 0 + 5 = ☐

25 + 0 = ○ + 25 = ☐

a + 0 = ○ + a = ☐

Write in expanded form.

43 = 40+3
739 = 700+30+9
6125 = ____________________
5402 = ____________________
387 = ____________________
1968 = ____________________
8413 = ____________________
7001 = ____________________

Add.

8 + 6 = __________
67 + 5 = __________
63 + 20 = __________
48 + 50 = __________
53 + 26 = __________
28 + 54 = __________
64 + 52 = __________
73 + 69 = __________
324 + 200 = __________
532 + 340 = __________
471 + 316 = __________
264 + 427 = __________
746 + 191 = __________
658 + 267 = __________
3547 + 5000 = __________
8312 + 1600 = __________
4257 + 2231 = __________
7234 + 1915 = __________

Complete.

8 + 47 = 47 + ☐ = __________
37 + 56 = 37 + 50 + ☐ = __________
429 + 64 = 429 + 60 + ☐ = __________
432 + 89 = 432 + 80 + ☐ = __________
285 + 247 = 285 + 200 + ☐ + 7 = __________
849 + 751 = 849 + ☐ + 700 = __________
265 + 378 = 265 + 300 + 70 + ☐ = __________
58 + 98 = 58 + (100 − ☐) = __________
7360 + 1999 = 7360 + (2000 − ☐) = __________

Add.

$$\begin{array}{r} 26 \\ +\,33 \\ \hline \end{array} \qquad \begin{array}{r} 48 \\ +\,51 \\ \hline \end{array} \qquad \begin{array}{r} 67 \\ +\,26 \\ \hline \end{array} \qquad \begin{array}{r} 124 \\ +\,335 \\ \hline \end{array} \qquad \begin{array}{r} 252 \\ +\,546 \\ \hline \end{array}$$

$$\begin{array}{r} 437 \\ +\,145 \\ \hline \end{array} \qquad \begin{array}{r} 283 \\ +\,492 \\ \hline \end{array} \qquad \begin{array}{r} 568 \\ +\,374 \\ \hline \end{array} \qquad \begin{array}{r} 655 \\ +\,175 \\ \hline \end{array} \qquad \begin{array}{r} 738 \\ +\,496 \\ \hline \end{array}$$

Find the sums.

$$\begin{array}{r} 25 \\ 13 \\ 41 \\ \hline \end{array} \qquad \begin{array}{r} 12 \\ 46 \\ 25 \\ \hline \end{array} \qquad \begin{array}{r} 136 \\ 417 \\ 225 \\ \hline \end{array} \qquad \begin{array}{r} 342 \\ 29 \\ 616 \\ \hline \end{array} \qquad \begin{array}{r} 562 \\ 219 \\ 188 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ 32 \\ 26 \\ 11 \\ \hline \end{array} \qquad \begin{array}{r} 31 \\ 18 \\ 27 \\ 9 \\ \hline \end{array} \qquad \begin{array}{r} 363 \\ 31 \\ 142 \\ 380 \\ \hline \end{array} \qquad \begin{array}{r} 329 \\ 140 \\ 167 \\ 258 \\ \hline \end{array} \qquad \begin{array}{r} 531 \\ 208 \\ 164 \\ 379 \\ \hline \end{array}$$

Find the totals.

$$\begin{array}{r} 1264 \\ +\,4531 \\ \hline \end{array} \qquad \begin{array}{r} 3532 \\ +\,5449 \\ \hline \end{array} \qquad \begin{array}{r} 1236 \\ +\,7695 \\ \hline \end{array} \qquad \begin{array}{r} 4847 \\ +\,2568 \\ \hline \end{array} \qquad \begin{array}{r} 6487 \\ +\,5833 \\ \hline \end{array}$$

$$\begin{array}{r} 34362 \\ +\,46719 \\ \hline \end{array} \qquad \begin{array}{r} 53683 \\ +\,29469 \\ \hline \end{array} \qquad \begin{array}{r} 46987 \\ +\,53013 \\ \hline \end{array} \qquad \begin{array}{r} 75849 \\ +\,34245 \\ \hline \end{array}$$

Subtract.

$$\begin{array}{r} 39 \\ -16 \\ \hline \end{array} \qquad \begin{array}{r} 41 \\ -24 \\ \hline \end{array} \qquad \begin{array}{r} 362 \\ -151 \\ \hline \end{array} \qquad \begin{array}{r} 873 \\ -236 \\ \hline \end{array} \qquad \begin{array}{r} 254 \\ -178 \\ \hline \end{array}$$

Find the differences.

$$\begin{array}{r} 800 \\ -370 \\ \hline \end{array} \qquad \begin{array}{r} 602 \\ -22 \\ \hline \end{array} \qquad \begin{array}{r} 268 \\ -179 \\ \hline \end{array} \qquad \begin{array}{r} 314 \\ -169 \\ \hline \end{array} \qquad \begin{array}{r} 500 \\ -417 \\ \hline \end{array}$$

Subtract.

$$\begin{array}{r} 8632 \\ -5021 \\ \hline \end{array} \qquad \begin{array}{r} 2342 \\ -315 \\ \hline \end{array} \qquad \begin{array}{r} 5431 \\ -3287 \\ \hline \end{array} \qquad \begin{array}{r} 6056 \\ -1285 \\ \hline \end{array} \qquad \begin{array}{r} 7650 \\ -3846 \\ \hline \end{array}$$

Find the differences.

$$\begin{array}{r} 3720 \\ -2945 \\ \hline \end{array} \qquad \begin{array}{r} 5601 \\ -1834 \\ \hline \end{array} \qquad \begin{array}{r} 3483 \\ -2586 \\ \hline \end{array} \qquad \begin{array}{r} 10000 \\ -6825 \\ \hline \end{array} \qquad \begin{array}{r} 50000 \\ -4999 \\ \hline \end{array}$$

Subtract 430 from 669. ________

From 830 subtract 321. ________

531 minus 281 equals ________.

The difference between 898 and 989 is ________.

Find the missing addends.

$$\begin{array}{r} 491 \\ +\boxed{} \\ \hline 732 \end{array} \qquad \begin{array}{r} 254 \\ +\boxed{} \\ \hline 562 \end{array} \qquad \begin{array}{r} 500 \\ +\boxed{} \\ \hline 775 \end{array} \qquad \begin{array}{r} 820 \\ +\boxed{} \\ \hline 1000 \end{array}$$

Complete.

$7 + 7 =$ ____

$14 + 7 =$ ____

$35 + 7 =$ ____

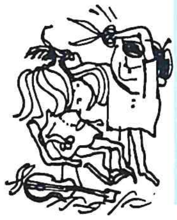
$77 + 7 =$ ____

$28 + 7 =$ ____

$70 + 7 =$ ____

$42 + 7 =$ ____

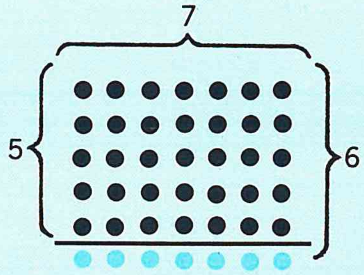
$63 + 7 =$ ____



Since $5 \times 7 = 35$

$6 \times 7 = 35 + 7$

$= 42$



Since $10 \times 7 = 70$

$11 \times 7 = 70 + \boxed{}$

$=$ ____

$8 \times 7 = 56$

$9 \times 7 = 56 + \boxed{}$

$=$ ____

$11 \times 7 = 77$

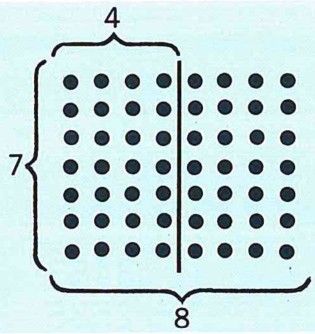
$12 \times 7 =$ ____ $+ \boxed{}$

$=$ ____

Since $4 \times 7 = 28$

$8 \times 7 = 28 + 28$

$= 56$



Since $3 \times 7 = 21$

$6 \times 7 = \boxed{} + \boxed{}$

$=$ ____

$9 \times 7 = 63$

$18 \times 7 = \boxed{} + \boxed{}$

$=$ ____

$12 \times 7 = 84$

$24 \times 7 = \boxed{} + \boxed{}$

$=$ ____

Since $2 \times 7 = 14$

$20 \times 7 = 10 \times 14$

$= 140$

Since $4 \times 7 = 28$

$40 \times 7 = \boxed{} \times 28$

$=$ ____

$6 \times 7 = 42$

$60 \times 7 = \boxed{} \times \bigcirc$

$=$ ____

$8 \times 7 = 56$

$80 \times 7 = \boxed{} \times \bigcirc$

$=$ ____

Complete.

$8 + 8 =$ ____

$24 + 8 =$ ____

$80 + 8 =$ ____

$56 + 8 =$ ____

$32 + 8 =$ ____

$72 + 8 =$ ____

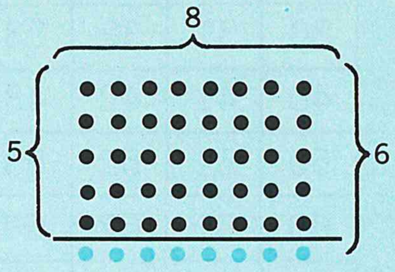
$40 + 8 =$ ____

$88 + 8 =$ ____

Since $5 \times 8 = 40$

$6 \times 8 = 40 + 8$

$= 48$



Since $6 \times 8 = 48$

$7 \times 8 = 48 + \boxed{}$

$=$ ____

$8 \times 8 = 64$

$9 \times 8 = 64 + \boxed{}$

$=$ ____

$12 \times 8 = 96$

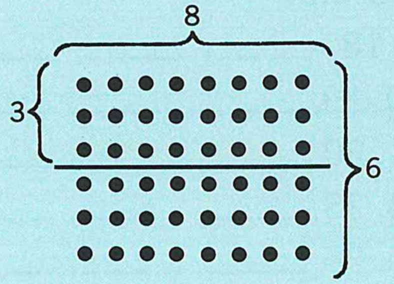
$13 \times 8 = 96 + \boxed{}$

$=$ ____

Since $3 \times 8 = 24$

$6 \times 8 = 24 + 24$

$= 48$



Since $7 \times 8 = 56$

$14 \times 8 = \boxed{} + \boxed{}$

$=$ ____

$8 \times 8 = 64$

$16 \times 8 = \boxed{} + \boxed{}$

$=$ ____

$9 \times 8 = 72$

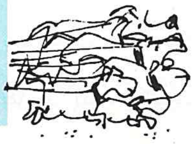
$18 \times 8 = \boxed{} + \boxed{}$

$=$ ____

Since $3 \times 8 = 24$

$30 \times 8 = 10 \times 24$

$= 240$



Since $7 \times 8 = 56$

$70 \times 8 = \boxed{} \times 56$

$=$ ____

$5 \times 8 = 40$

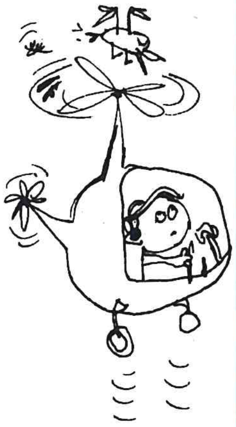
$50 \times 8 = \boxed{} \times \bigcirc$

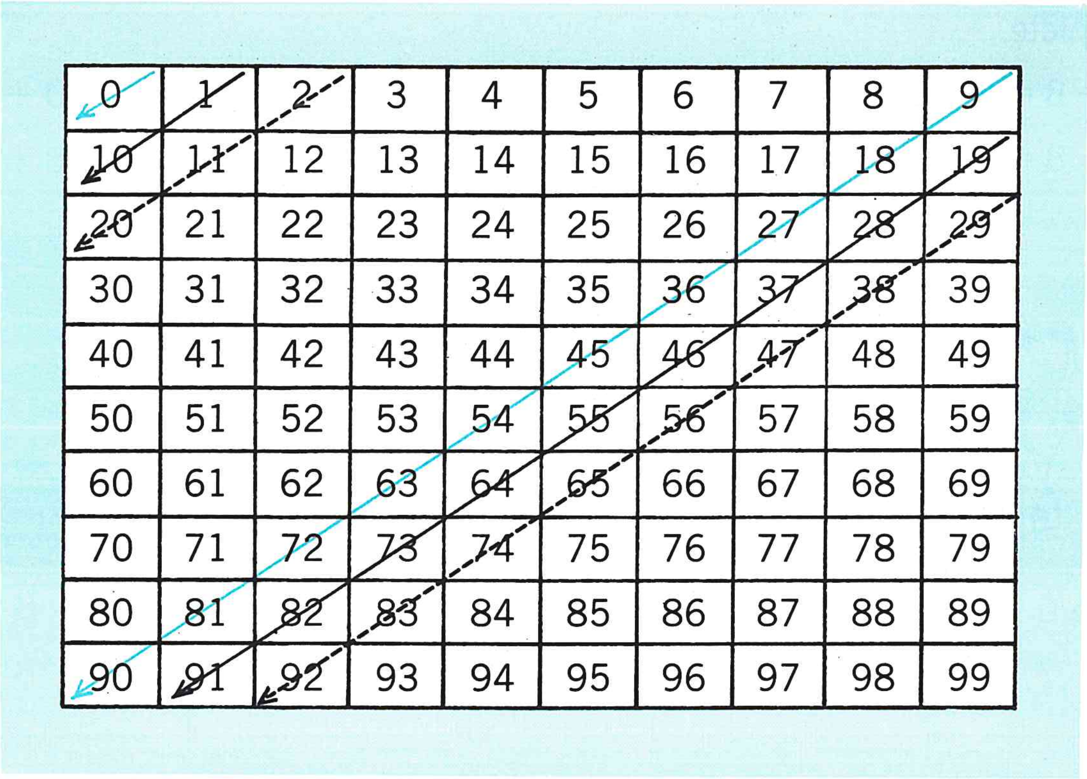
$=$ ____

$9 \times 8 = 72$

$90 \times 8 = \boxed{} \times \bigcirc$

$=$ ____





0	1	2	3	4	5	6	7	8	9
10	11	12	13	14	15	16	17	18	19
20	21	22	23	24	25	26	27	28	29
30	31	32	33	34	35	36	37	38	39
40	41	42	43	44	45	46	47	48	49
50	51	52	53	54	55	56	57	58	59
60	61	62	63	64	65	66	67	68	69
70	71	72	73	74	75	76	77	78	79
80	81	82	83	84	85	86	87	88	89
90	91	92	93	94	95	96	97	98	99

Numbers divided by 9 with
remainder 0 = {0, 9, 18, ____, ____, ____, ____, ____, ____, ____, ____, . . .}
remainder 1 = {1, 10, 19, ____, ____, ____, ____, ____, ____, ____, ____, . . .}
remainder 2 = {2, 11, 20, ____, ____, ____, ____, ____, ____, ____, ____, . . .}
remainder 5 = {5, 14, 23, ____, ____, ____, ____, ____, ____, ____, ____, . . .}
remainder 7 = {7, 16, 25, ____, ____, ____, ____, ____, ____, ____, ____, . . .}

Find the pattern for numbers divided by 8 with
remainder 0 = {0, 8, 16, ____, ____, ____, ____, ____, . . .}
remainder 1 = {1, 9, 17, ____, ____, ____, ____, ____, . . .}
remainder 2 = {2, 10, 18, ____, ____, ____, ____, ____, . . .}
remainder 5 = {5, 13, 21, ____, ____, ____, ____, ____, . . .}

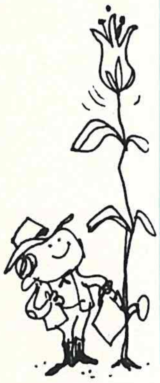
Find the pattern for numbers divided by 7 with
remainder 0 = {0, 7, 14, ____, ____, ____, ____, ____, . . .}
remainder 1 = {1, 8, 15, ____, ____, ____, ____, ____, . . .}
remainder 2 = {2, 9, 16, ____, ____, ____, ____, ____, . . .}
remainder 5 = {5, 12, 19, ____, ____, ____, ____, ____, . . .}

3 × 6 = 18

factor × factor = product

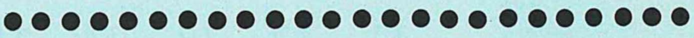
40 = 8 × 5

product = factor × factor

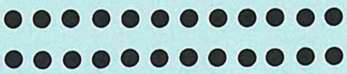


What are all of the factors of 24?

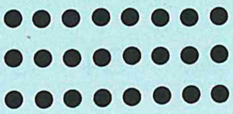
1 × 24 = 24



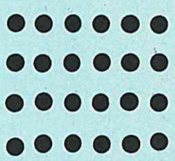
2 × 12 = 24



3 × 8 = 24



4 × 6 = 24



The set of factors of 24 is {1, 2, 3, 4, 6, 8, 12, 24}.

What are the factors of 12?

1 × ☐ = 12

☐ × 6 = 12

○ × ☐ = 12

The set of factors of 12 is

{1, 2, ____, ____, 6, 12}.

What are the factors of 20?

☐ × ○ = 20

○ × ☐ = 20

☐ × ○ = 20

The set of factors of 20 is

{1, ____, ____, ____, ____, 20}.

What are the factors of 30?

30 = 1 × ☐

30 = ☐ × ○

30 = ○ × ☐

30 = ☐ × ○

The set of factors of 30 is

{____, ____, ____, ____, ____, ____, ____, ____}.

What are the factors of 45?

45 = ☐ × ○

45 = ○ × ☐

45 = ☐ × ○

The set of factors of 45 is

{____, ____, ____, ____, ____, ____}.

Find the missing factors.

2 × ☐ = 18

☐ × 6 = 60

4 × ☐ = 28

Find the value of n.

5 × n = 35   n = ☐

4 × n = 32   n = ☐

n × 6 = 36   n = ☐

Can you guess?

☐ × ☐ = ☐

○ × ○ = ○

1	$\cancel{2}$	$\underline{3}$	$\cancel{4}$	$\textcircled{5}$	$\underline{\cancel{6}}$	7	$\cancel{8}$	$\underline{9}$	$\cancel{\textcircled{10}}$
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60

Draw a / through numbers divisible by 2.
Draw a ___ under numbers divisible by 3.
Draw a ○ around numbers divisible by 5.

Use the chart to find

multiples of 2. 2, 4, 6, ___, ___, ___, ___, ___, . . .
multiples of 3. 3, 6, 9, ___, ___, ___, ___, ___, . . .
multiples of 5. 5, 10, 15, ___, ___, ___, ___, ___, . . .
multiples of 2 and 3. 6, 12, 18, ___, ___, ___, ___, ___, . . .
multiples of 2 and 5. 10, 20, ___, ___, ___, ___, . . .
multiples of 3 and 5. 15, ___, ___, ___, . . .
multiples of 2, 3, and 5. ___, ___, . . .
multiples of 6. 6, 12, ___, ___, ___, ___, ___, ___, . . .
multiples of 10. 10, 20, ___, ___, ___, ___, . . .
multiples of 15. ___, ___, ___, ___, . . .
multiples of 30. ___, ___, . . .

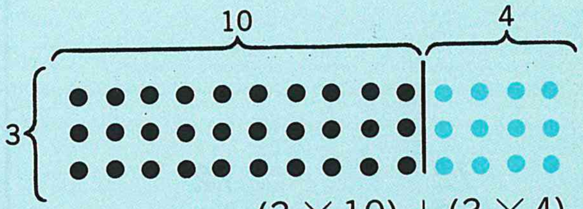
38 = 30 + 8
147 = 100 + 40 + 7

Write in expanded form.

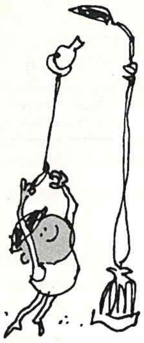
865 = 800 + 60 + ____
419 = 400 + ____ + 9
1608 = 1000 + 600 + ____
2538 = 2000 + ____ + 30 + 8

324 = 300 + ____ + 4
709 = 700 + ____
5036 = 5000 + ____ + 6
8002 = ____ + ____

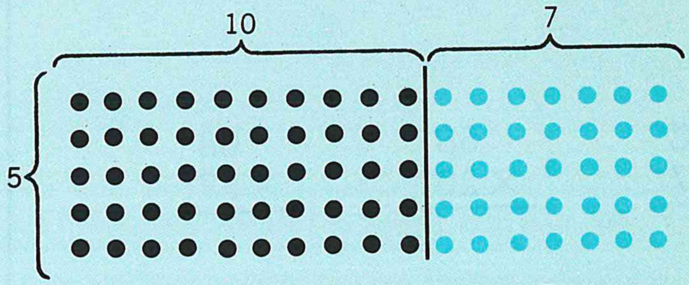
3 × 14 = 3 × (10 + 4)
= (3 × 10) + (3 × 4)
= 30 + 12
= 42



(3 × 10) + (3 × 4)
30 + 12 = 42



5 × 17 = 5 × (10 + 7)
= (5 × 10) + (5 × 7)
= 50 + 35
= 85



(5 × 10) + (5 × 7)
50 + 35 = 85

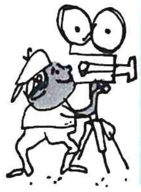
Fill in.

5 × 43 = 5 × (40 + 3)
= (5 × ____) + (5 × ____)
= ____ + ____
= ____

6 × 24 = 6 × (20 + 4)
= (6 × ____) + (6 × ____)
= ____ + ____
= ____

7 × 15 = 7 × (____ + ____)
= (7 × ____) + (7 × ____)
= ____ + ____
= ____

8 × 36 = 8 × (____ + ____)
= (____ × ____) + (____ × ____)
= ____ + ____
= ____



$$\begin{array}{r} 79 \\ \times 5 \\ \hline 395 \end{array} \qquad \begin{array}{r} 79 \\ \times 80 \\ \hline 6320 \end{array} \qquad \begin{array}{rcl} 79 & & \\ \times 85 & & \\ \hline 395 & \longrightarrow & 5 \times 79 \\ 6320 & \longrightarrow & 80 \times 79 \\ \hline 6715 & \longrightarrow & 85 \times 79 \end{array}$$

Multiply.

$$\begin{array}{r} 63 \\ \times 8 \\ \hline \end{array} \qquad \begin{array}{r} 63 \\ \times 40 \\ \hline \end{array} \qquad \begin{array}{r} 63 \\ \times 48 \\ \hline \end{array} \qquad \begin{array}{r} 47 \\ \times 5 \\ \hline \end{array} \qquad \begin{array}{r} 47 \\ \times 30 \\ \hline \end{array} \qquad \begin{array}{r} 47 \\ \times 35 \\ \hline \end{array}$$

$$\begin{array}{r} 72 \\ \times 6 \\ \hline \end{array} \qquad \begin{array}{r} 72 \\ \times 50 \\ \hline \end{array} \qquad \begin{array}{r} 72 \\ \times 56 \\ \hline \end{array} \qquad \begin{array}{r} 39 \\ \times 4 \\ \hline \end{array} \qquad \begin{array}{r} 39 \\ \times 20 \\ \hline \end{array} \qquad \begin{array}{r} 39 \\ \times 24 \\ \hline \end{array}$$

$$\begin{array}{r} 68 \\ \times 7 \\ \hline \end{array} \qquad \begin{array}{r} 68 \\ \times 20 \\ \hline \end{array} \qquad \begin{array}{r} 68 \\ \times 27 \\ \hline \end{array} \qquad \begin{array}{r} 54 \\ \times 8 \\ \hline \end{array} \qquad \begin{array}{r} 54 \\ \times 70 \\ \hline \end{array} \qquad \begin{array}{r} 54 \\ \times 78 \\ \hline \end{array}$$

$$\begin{array}{r} 83 \\ \times 9 \\ \hline \end{array} \qquad \begin{array}{r} 83 \\ \times 40 \\ \hline \end{array} \qquad \begin{array}{r} 83 \\ \times 49 \\ \hline \end{array} \qquad \begin{array}{r} 92 \\ \times 6 \\ \hline \end{array} \qquad \begin{array}{r} 92 \\ \times 30 \\ \hline \end{array} \qquad \begin{array}{r} 92 \\ \times 36 \\ \hline \end{array}$$

$$\begin{array}{r} 74 \\ \times 5 \\ \hline \end{array} \qquad \begin{array}{r} 74 \\ \times 60 \\ \hline \end{array} \qquad \begin{array}{r} 74 \\ \times 65 \\ \hline \end{array} \qquad \begin{array}{r} 89 \\ \times 3 \\ \hline \end{array} \qquad \begin{array}{r} 89 \\ \times 50 \\ \hline \end{array} \qquad \begin{array}{r} 89 \\ \times 53 \\ \hline \end{array}$$

Find the products.

8 × 1 = 8
6 × 2 = ______
7 × 3 = ______
9 × 6 = ______

8 × 10 = 80
6 × 20 = ______
7 × 30 = ______
9 × 60 = ______

8 × 100 = 800
6 × 200 = ______
7 × 300 = ______
9 × 600 = ______

Find the quotients.

35 ÷ 5 = ______
24 ÷ 8 = ______
28 ÷ 7 = ______
42 ÷ 6 = ______

350 ÷ 5 = ______
240 ÷ 8 = ______
280 ÷ 7 = ______
420 ÷ 6 = ______

3500 ÷ 5 = ______
2400 ÷ 8 = ______
2800 ÷ 7 = ______
4200 ÷ 6 = ______

$$\begin{array}{r|l} 463 & \\ 7\overline{)3246} & \\ \underline{2800} & 400\times 7 \\ 446 & \\ \underline{420} & 60\times 7 \\ 26 & \\ 21 & 3\times 7 \\ \hline 5 & 463\times 7 \end{array}$$

$$\begin{array}{rl} 463 & \text{quotient} \\ 7\overline{)3246} & \\ \underline{28} & \\ 44 & \\ \underline{42} & \\ 26 & \\ \underline{21} & \\ 5 & \text{remainder} \end{array}$$

$$\begin{array}{r} 463\ \text{r}5 \\ 7\overline{)3246} \end{array}$$

Divide.

$4\overline{)5487}$

$8\overline{)5141}$

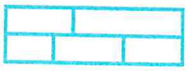
$9\overline{)5184}$

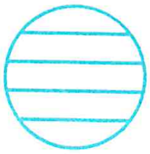
$7\overline{)15281}$

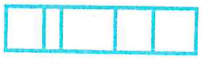
$5\overline{)7963}$

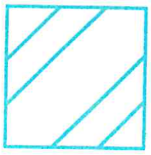
$6\overline{)81013}$

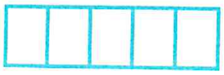
Draw a ◯ around the picture of fifths.



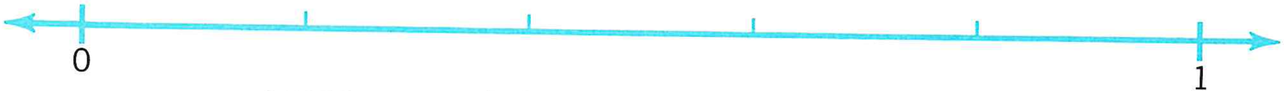






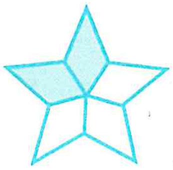


Fill in.

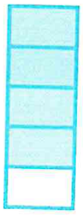


____ ____ ____ ____

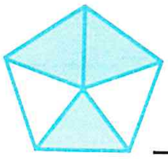
Indicate in fraction form the parts shaded.



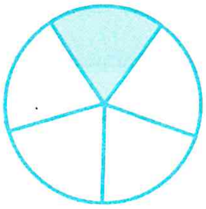
____



____

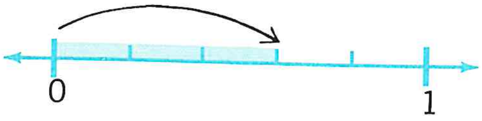


____

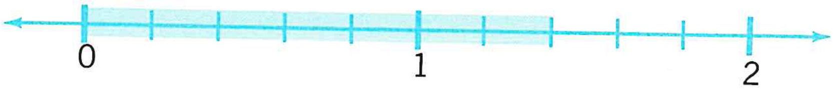


____

In each blank write in fraction form the length of each line segment.



____



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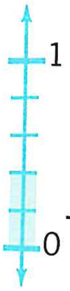

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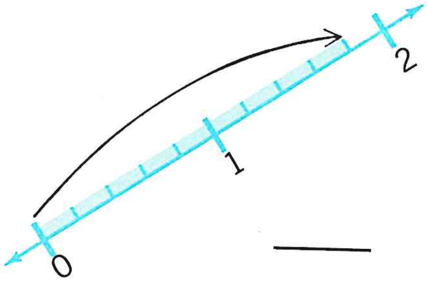
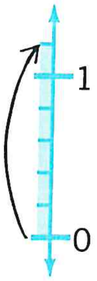


____



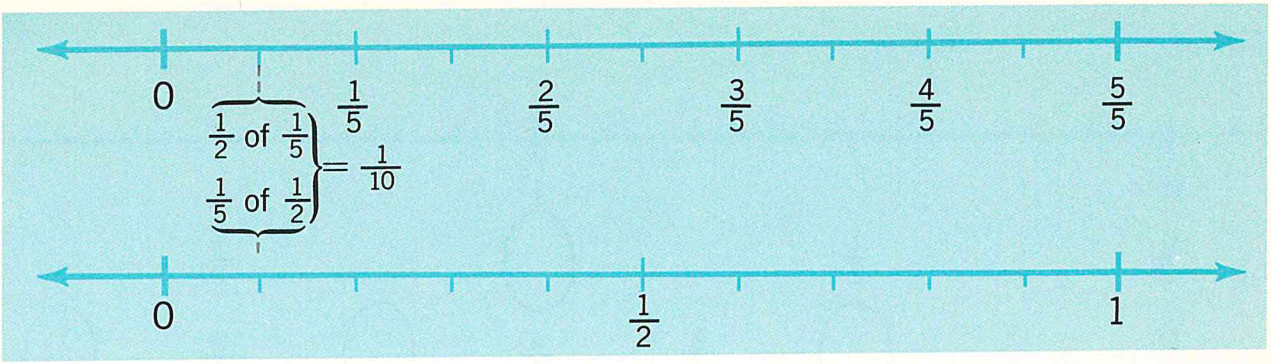
____

Fill in each $\boxed{}$.

$\frac{\boxed{}}{5} = 1$ $\frac{\boxed{}}{5} = 2$ $\frac{\boxed{}}{5} = 4$ $\frac{\boxed{}}{5} = 3$ $\frac{\boxed{}}{5} = 5$

Write $>$, $=$, or $<$ on each ________.

$\frac{2}{5}$ ________ $\frac{4}{5}$ $\frac{4}{5}$ ________ 1 $\frac{1}{2}$ ________ $\frac{1}{5}$ $1\frac{4}{5}$ ________ $1\frac{2}{5}$ $\frac{3}{5}$ ________ $\frac{1}{5}$ 1 ________ $\frac{6}{5}$ 1 ________ $\frac{5}{5}$


0
$\frac{1}{5}$
$\frac{2}{5}$
$\frac{3}{5}$
$\frac{4}{5}$
$\frac{5}{5}$
$\left.\begin{matrix}\frac{1}{2} \text{ of } \frac{1}{5} \\ \frac{1}{5} \text{ of } \frac{1}{2}\end{matrix}\right\} = \frac{1}{10}$
0
$\frac{1}{2}$
1

Fill in each blank.

$\frac{1}{2}$ of $\frac{1}{5}$ = ____

$\frac{1}{2}$ of $\frac{2}{10}$ = ____

$\frac{1}{5}$ of $\frac{1}{2}$ = ____

$\frac{1}{2}$ of $\frac{2}{5}$ = ____

$\frac{1}{2}$ of $\frac{4}{10}$ = ____

$\frac{2}{5}$ of $\frac{1}{2}$ = ____

$\frac{1}{2}$ of $\frac{3}{5}$ = ____

$\frac{1}{2}$ of $\frac{6}{10}$ = ____

$\frac{3}{5}$ of $\frac{1}{2}$ = ____

$\frac{1}{2}$ of $\frac{4}{5}$ = ____

$\frac{1}{2}$ of $\frac{8}{10}$ = ____

$\frac{4}{5}$ of $\frac{1}{2}$ = ____

Fill in each ☐.

$\frac{1}{5} = \frac{\square}{10}$

$\frac{3}{5} = \frac{\square}{10}$

$\frac{4}{10} = \frac{\square}{5}$

$\frac{2}{10} = \frac{\square}{5}$

$\frac{1}{2} = \frac{\square}{10}$

$\frac{4}{5} = \frac{\square}{10}$

$\frac{8}{\square} = \frac{4}{5}$

$\frac{2}{\square} = \frac{4}{10}$

Write >, =, or < on each ....

$\frac{2}{5}$ -------- $\frac{3}{10}$

$\frac{1}{5}$ -------- $\frac{3}{10}$

$\frac{1}{5}$ -------- $\frac{1}{2}$

$\frac{5}{10}$ -------- $\frac{1}{2}$

$\frac{6}{10}$ -------- $\frac{3}{5}$

$\frac{6}{10}$ -------- $\frac{1}{2}$

$\frac{3}{5}$ -------- $\frac{1}{2}$

$\frac{3}{5}$ -------- $\frac{6}{10}$

$\frac{4}{5}$ -------- $\frac{9}{10}$

1 -------- $\frac{9}{10}$

1 -------- $\frac{6}{5}$

$\frac{6}{10}$ -------- $\frac{6}{5}$

Fill in each ☐.

$\frac{8}{10} = \square \times \frac{1}{10}$

$\frac{6}{10} = \square \times \frac{1}{10}$

$\frac{4}{10} = \square \times \frac{1}{10}$

$\frac{8}{10} = \square \times \frac{2}{10}$

$\frac{6}{10} = \square \times \frac{3}{10}$

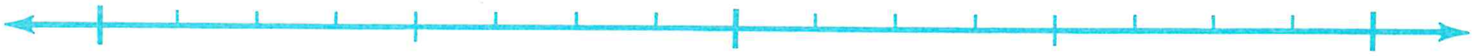
$\frac{4}{10} = \square \times \frac{2}{10}$

$\frac{8}{10} = \square \times \frac{4}{10}$

$\frac{6}{10} = \square \times \frac{2}{10}$

$\frac{4}{10} = \square \times \frac{4}{10}$

Fill in.



0 1 2

$\frac{0}{2}$ $\frac{1}{2}$ ◯ $\frac{3}{2}$ $\frac{4}{2}$

$\frac{0}{4}$ $\frac{1}{4}$ ◯ $\frac{3}{4}$ $\frac{4}{4}$ ◯ $\frac{6}{4}$ ◯ $\frac{8}{4}$

$\frac{0}{8}$ $\frac{1}{8}$ $\frac{2}{8}$ ◯ $\frac{4}{8}$ $\frac{5}{8}$ ◯ $\frac{7}{8}$ $\frac{8}{8}$ ◯ $\frac{10}{8}$ $\frac{11}{8}$ ◯ $\frac{13}{8}$ $\frac{14}{8}$ $\frac{15}{8}$ ◯

Rename.

$\frac{1}{4} = \frac{}{8}$

$\frac{3}{4} = \frac{}{8}$

$\frac{10}{8} = \frac{}{4}$

$\frac{1}{2} = \frac{}{4} = \frac{}{8}$

$\frac{12}{8} = \frac{}{4} = \frac{}{2}$

$\frac{4}{2} = \frac{}{4} = \frac{}{8}$

$\frac{8}{8} = \boxed{}$

$\frac{2}{2} = \boxed{}$

$\frac{3}{3} = \boxed{}$

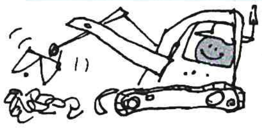
$\frac{}{4} = 1$

$\frac{5}{} = 1$

$\frac{}{6} = 1$

Rename.

$\frac{1 \times 3}{4 \times 3} = \frac{3}{12}$



$\frac{3\times 2}{8\times 2} = \underline{\qquad}$

$\frac{2\times 4}{5\times 4} = \underline{\qquad}$

$\frac{7\times 7}{8\times 7} = \underline{\qquad}$

$\frac{1\times }{2\times } = \frac{3}{6}$

$\frac{3\times }{4\times } = \frac{6}{8}$

$\frac{2\times }{3\times } = \frac{8}{12}$

$\frac{\times 2}{\times 2} = \frac{2}{4}$

$\frac{\times 3}{\times 3} = \frac{9}{12}$

$\frac{\times 2}{\times 2} = \frac{8}{10}$

Rename.

$\frac{6 \div 3}{9 \div 3} = \frac{2}{3}$

$\frac{5\div 5}{10\div 5} = \underline{\qquad}$

$\frac{4\div 2}{6\div 2} = \underline{\qquad}$

$\frac{5\div }{15\div } = \frac{1}{3}$

$\frac{6\div }{10\div } = \frac{3}{5}$

$\frac{\div 4}{\div 4} = \frac{1}{2}$

$\frac{\div 2}{\div 2} = \frac{2}{3}$

Renaming fractions: Higher form / Simplest form

Count by halves.

$\frac{0}{2}, \frac{1}{2}, \frac{2}{2}, \frac{3}{2},$ ____, ____, ____, ____, . . .

$0, \frac{1}{2}, 1, 1\frac{1}{2},$ ____, ____, ____, ____, . . .

Count by thirds.

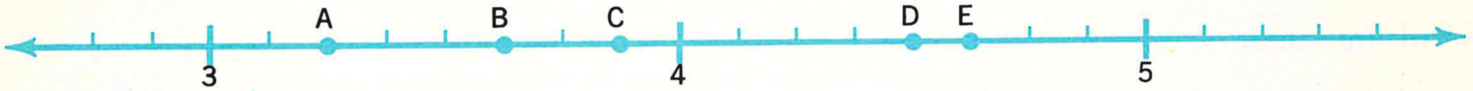
$\frac{0}{3}, \frac{1}{3}, \frac{2}{3}, \frac{3}{3}, \frac{4}{3},$ ____, ____, ____, ____, . . .

$0, \frac{1}{3}, \frac{2}{3}, 1, 1\frac{1}{3},$ ____, ____, ____, ____, . . .

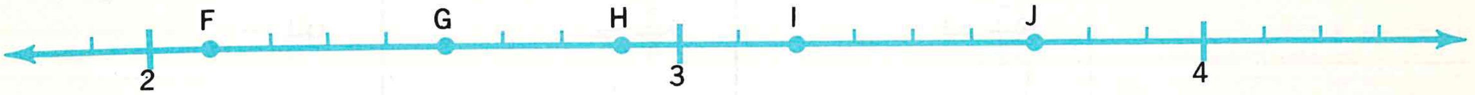
Count by fourths.

$\frac{0}{4}, \frac{1}{4}, \frac{2}{4}, \frac{3}{4}, \frac{4}{4}, \frac{5}{4},$ ____, ____, ____, ____, . . .

$0, \frac{1}{4}, \frac{1}{2}, \frac{3}{4}, 1, 1\frac{1}{4},$ ____, ____, ____, ____, . . .



A = $3\frac{2}{8}$ or $3\frac{1}{4}$ B = ____ C = ____ D = ____ E = ____



F = $2\frac{1}{9}$ G = ____ H = ____ I = ____ J = ____

Complete each pattern.

$6, 6\frac{1}{2}, 7, 7\frac{1}{2},$ ____, ____, ____.

$4, 4\frac{1}{4}, 4\frac{1}{2}, 4\frac{3}{4},$ ____, ____, ____.

$3\frac{2}{5}, 3\frac{4}{5}, 4\frac{1}{5}, 4\frac{3}{5},$ ____, ____, ____.

$7\frac{1}{8}, 7\frac{1}{4}, 7\frac{3}{8}, 7\frac{1}{2},$ ____, ____, ____.

3.6, 3.8, 4, 4.2, ____, ____, ____.

5.3, 5.7, 6.1, 6.5, ____, ____, ____.

$9\frac{2}{3}, 9\frac{1}{3}, 9, 8\frac{2}{3},$ ____, ____, ____.

$8\frac{4}{5}, 8\frac{1}{5}, 7\frac{3}{5}, 7,$ ____, ____, ____.

Rename.

$\frac{4}{3} = 1\frac{}{3}$

$3\frac{8}{5} = 4\frac{}{5}$

$\frac{7}{4} = 1\frac{}{4}$

$6\frac{9}{4} = \underline{\qquad}\frac{1}{4}$

$\frac{19}{6} = \underline{\qquad}\frac{1}{6}$

$7\frac{13}{5} = \underline{\qquad}\frac{3}{5}$

$\frac{23}{2} = \underline{\qquad}$

$1\frac{18}{4} = \underline{\qquad}$

$$\frac{1}{6} = \frac{1\times 2}{6\times 2} = \frac{2}{12}$$

$$\frac{2}{3} = \frac{2\times 4}{3\times 4} = \frac{8}{12}$$

$$\underline{\frac{3}{4}} = \underline{\frac{3\times 3}{4\times 3}} = \underline{\frac{9}{12}}$$

$$\frac{19}{12} = 1\frac{7}{12}$$

Rename. Then add.

$\frac{2}{3} = \frac{}{12}$

$\frac{1}{2} = \frac{}{12}$

$\underline{\frac{3}{4}} = \underline{\frac{}{12}}$

$\frac{}{12} = \underline{\qquad}$

$\frac{1}{2} = \frac{}{8}$

$\frac{3}{8} = \frac{}{8}$

$\underline{\frac{3}{4}} = \underline{\frac{}{8}}$

$\frac{}{8} = \underline{\qquad}$

Find the sums.

$2\frac{5}{6} = 2\frac{}{12}$

$5\frac{2}{3} = 5\frac{}{12}$

$\underline{1\frac{7}{12}} = \underline{1\frac{}{12}}$

$8\frac{}{12} = \underline{\qquad}$

$6\frac{1}{2} =$

$2\frac{7}{8} =$

$\underline{3\frac{3}{4}} =$

$4\frac{1}{2} =$

$2\frac{5}{8} =$

$\underline{7\frac{3}{4}} =$

$5\frac{9}{10} =$

$6\frac{1}{2} =$

$\underline{9\frac{4}{5}} =$

$4\frac{3}{5} =$

$5\frac{1}{2} =$

$\underline{\frac{4}{5}} =$

$8\frac{1}{4} =$

$9 =$

$\underline{7\frac{7}{8}} =$

$18\frac{1}{2} =$

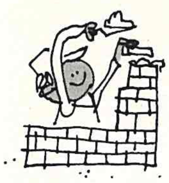
$12\frac{1}{4} =$

$\underline{3\frac{2}{3}} =$

$25\frac{3}{10} =$

$17\frac{1}{2} =$

$\underline{11\frac{1}{5}} =$



$$\frac{5}{12}+\frac{11}{12}=\frac{5+11}{12}=\frac{16}{12}$$
$$=1\frac{4}{12}=1\frac{1}{3}$$

$$\frac{2}{3}+\frac{5}{6}=\frac{4}{6}+\frac{5}{6}=\frac{9}{6}$$
$$=1\frac{3}{6}=1\frac{1}{2}$$

Add.

$\frac{5}{8}+\frac{1}{8}=\frac{}{8}=\underline{\qquad}$

$\frac{4}{5}+\frac{1}{5}=\underline{\qquad}=\underline{\qquad}$

$\frac{2}{3}+\frac{3}{3}=\underline{\qquad}=\underline{\qquad}$

$\frac{5}{6}+\frac{5}{6}=\underline{\qquad}=\underline{\qquad}$

$\frac{1}{2}+\frac{3}{10}=\frac{}{10}+\frac{}{10}=\frac{}{10}=\underline{\qquad}$

$\frac{3}{4}+\frac{5}{8}=\frac{}{8}+\frac{}{8}=\underline{\qquad}=\underline{\qquad}$

$\frac{7}{8}+\frac{1}{4}=\underline{\qquad\qquad}=\underline{\qquad}=\underline{\qquad}$

$\frac{1}{12}+\frac{5}{6}=\underline{\qquad\qquad}=\underline{\qquad}$

$\frac{2}{3}+\frac{1}{4}+\frac{3}{6}=\frac{}{12}+\frac{}{12}+\frac{}{12}=\underline{\qquad}=\underline{\qquad}$

$\frac{4}{5}+\frac{1}{2}+\frac{7}{10}=\underline{\qquad\qquad\qquad\qquad}=\underline{\qquad}=\underline{\qquad}$

$\frac{1}{2}+\frac{3}{4}+\frac{5}{8}=\underline{\qquad\qquad\qquad\qquad}=\underline{\qquad}=\underline{\qquad}$

$$3\frac{7}{12}+\frac{11}{12}=3\frac{18}{12}$$
$$=4\frac{6}{12}=4\frac{1}{2}$$

$$8\frac{5}{8}+\frac{3}{4}=8\frac{5}{8}+\frac{6}{8}=8\frac{11}{8}$$
$$=9\frac{3}{8}$$

Find the sums.

$1\frac{3}{8}+\frac{5}{8}=1\frac{}{8}=\underline{\qquad}$

$6\frac{3}{4}+\frac{3}{4}=\underline{\qquad}=\underline{\qquad}=\underline{\qquad}$

$\frac{3}{5}+6\frac{4}{5}=\underline{\qquad}=\underline{\qquad}$

$3\frac{2}{5}+\frac{3}{10}=3\frac{}{10}+\frac{}{10}=\underline{\qquad}$

$7\frac{9}{10}+\frac{4}{5}=\underline{\qquad\qquad}=\underline{\qquad}=\underline{\qquad}$

$4\frac{1}{2}+\frac{2}{3}=\underline{\qquad\qquad}=\underline{\qquad}=\underline{\qquad}$

Find the totals.

$2\frac{1}{8}+4\frac{3}{8}=6\frac{}{8}=\underline{\qquad}$

$3\frac{1}{6}+2\frac{1}{6}=\underline{\qquad}=\underline{\qquad}$

$7\frac{1}{4}+1\frac{3}{4}=\underline{\qquad}=\underline{\qquad}$

$5\frac{2}{5}+3\frac{4}{5}=\underline{\qquad}=\underline{\qquad}$

$4\frac{1}{2}+3\frac{1}{4}=4\frac{}{4}+3\frac{}{4}=\underline{\qquad}$

$7\frac{2}{5}+1\frac{3}{10}=\underline{\qquad\qquad}=\underline{\qquad}$

$6\frac{3}{4}+2\frac{7}{12}=\underline{\qquad\qquad}=\underline{\qquad}=\underline{\qquad}$

$3\frac{2}{3}+7\frac{3}{4}=\underline{\qquad\qquad}=\underline{\qquad}=\underline{\qquad}$

$$\begin{array}{r} \frac{5}{8} \\ -\frac{3}{8} \\ \hline \frac{2}{8} = \frac{1}{4} \end{array}$$

Subtract.

$$\begin{array}{r} \frac{3}{4} \\ -\frac{1}{4} \\ \hline \end{array} \qquad \begin{array}{r} \frac{11}{12} \\ -\frac{7}{12} \\ \hline \end{array} \qquad \begin{array}{r} \frac{9}{10} \\ -\frac{3}{10} \\ \hline \end{array} \qquad \begin{array}{r} \frac{4}{5} \\ -\frac{4}{5} \\ \hline \end{array}$$

$$\begin{array}{r} \frac{11}{12} = \frac{11}{12} \\ -\frac{1}{6} = \frac{2}{12} \\ \hline \frac{9}{12} = \frac{3}{4} \end{array}$$

$$\begin{array}{r} \frac{2}{5} = \frac{\quad}{10} \\ -\frac{3}{10} = \frac{\quad}{10} \\ \hline \end{array} \qquad \begin{array}{r} \frac{1}{2} = \\ -\frac{1}{8} = \\ \hline \end{array} \qquad \begin{array}{r} \frac{5}{6} = \\ -\frac{1}{3} = \\ \hline \end{array} \qquad \begin{array}{r} \frac{3}{4} = \\ -\frac{2}{3} = \\ \hline \end{array}$$

$$\begin{array}{r} 4\frac{7}{10} = \\ -\ \frac{2}{5} = \\ \hline \end{array} \qquad \begin{array}{r} 2\frac{3}{8} \\ -\frac{1}{8} \\ \hline \end{array} \qquad \begin{array}{r} 7\frac{5}{8} = \\ -\frac{1}{2} = \\ \hline \end{array} \qquad \begin{array}{r} 8\frac{5}{6} = \\ -\frac{1}{4} = \\ \hline \end{array}$$

Find the differences.

$$\begin{array}{r} 6\frac{2}{3} = 6\frac{8}{12} \\ -2\frac{1}{4} = 2\frac{3}{12} \\ \hline 4\frac{5}{12} \end{array}$$

$$\begin{array}{r} 3\frac{4}{5} \\ -1\frac{3}{5} \\ \hline \end{array} \qquad \begin{array}{r} 8\frac{5}{6} \\ -4\frac{1}{6} \\ \hline \end{array} \qquad \begin{array}{r} 9\frac{5}{8} = \\ -6\frac{1}{2} = \\ \hline \end{array}$$

$$\begin{array}{r} 6\frac{3}{4} \\ -3\frac{1}{4} \\ \hline \end{array} \qquad \begin{array}{r} 7\frac{9}{10} = \\ -4\frac{2}{5}\ = \\ \hline \end{array} \qquad \begin{array}{r} 5\frac{5}{6} = \\ -2\frac{3}{4} = \\ \hline \end{array} \qquad \begin{array}{r} 13\frac{7}{8} = \\ -8\frac{5}{6} = \\ \hline \end{array}$$

Rename these fractions.

$\frac{1}{2} = \frac{\quad}{4} = \frac{\quad}{8}$

$\frac{2}{3} = \frac{\quad}{6} = \frac{\quad}{12}$

$\frac{1}{4} = \frac{\quad}{8} = \frac{\quad}{12}$

$\frac{1}{3} = \frac{\quad}{9} = \frac{\quad}{12}$

$\frac{3}{4} = \frac{\quad}{8} = \frac{9}{\quad}$

$\frac{1}{2} = \frac{\quad}{6} = \frac{5}{\quad}$

$1\frac{1}{2} = \frac{\quad}{2} = \frac{\quad}{4}$

$2\frac{3}{4} = \frac{\quad}{4} = \frac{\quad}{8}$

$\frac{1}{2} = \frac{6}{\quad}$

$\frac{5}{6} = \frac{\quad}{12}$

$\frac{3}{5} = \frac{6}{\quad}$

$\frac{2}{3} = \frac{6}{\quad}$

$\frac{5}{8} - \frac{3}{8} = \frac{5-3}{8} = \frac{2}{8} = \frac{1}{4}$

Subtract.

$\frac{3}{4} - \frac{1}{4} = \frac{\quad}{4} = \underline{\qquad}$

$\frac{7}{8} - \frac{5}{8} = \frac{\quad}{8} = \underline{\qquad}$

$\frac{5}{6} - \frac{1}{6} = \frac{\quad}{6} = \underline{\qquad}$

$\frac{7}{10} - \frac{3}{10} = \frac{\quad}{10} = \underline{\qquad}$

$\frac{11}{12} - \frac{5}{12} = \frac{\quad}{12} = \underline{\qquad}$

$\frac{1}{2} - \frac{1}{2} = \underline{\qquad}$

$\frac{7}{9} - \frac{5}{9} = \underline{\qquad}$

$\frac{4}{5} - \frac{2}{5} = \underline{\qquad}$

$\frac{2}{3} - \frac{2}{3} = \underline{\qquad}$

$\frac{11}{12} - \frac{3}{4} = \frac{11}{12} - \frac{9}{12} = \frac{2}{12} = \frac{1}{6}$

$\frac{3}{4} - \frac{7}{12} = \frac{9}{12} - \frac{7}{12} = \frac{2}{12} = \frac{1}{6}$

Find the differences.

$\frac{3}{4} - \frac{1}{2} = \frac{\quad}{4} - \frac{\quad}{4} = \underline{\qquad}$

$\frac{5}{8} - \frac{1}{4} = \frac{\quad}{8} - \frac{\quad}{8} = \underline{\qquad}$

$\frac{7}{12} - \frac{1}{2} = \frac{\quad}{12} - \frac{\quad}{12} = \underline{\qquad}$

$\frac{7}{8} - \frac{1}{2} = \underline{\qquad\qquad\qquad} = \underline{\qquad}$

$\frac{5}{6} - \frac{1}{3} = \underline{\qquad\qquad\qquad} = \underline{\qquad} = \underline{\qquad}$

$\frac{5}{12} - \frac{1}{3} = \underline{\qquad\qquad\qquad} = \underline{\qquad}$

$\frac{2}{3} - \frac{1}{4} = \underline{\qquad\qquad\qquad} = \underline{\qquad}$

$\frac{4}{5} - \frac{7}{10} = \frac{\quad}{10} - \frac{\quad}{10} = \underline{\qquad}$

$\frac{1}{2} - \frac{1}{8} = \frac{\quad}{8} - \frac{\quad}{8} = \underline{\qquad}$

$\frac{5}{6} - \frac{5}{12} = \frac{\quad}{12} - \frac{\quad}{12} = \underline{\qquad}$

$\frac{3}{4} - \frac{5}{8} = \underline{\qquad\qquad\qquad} = \underline{\qquad}$

$\frac{2}{3} - \frac{1}{6} = \underline{\qquad\qquad\qquad} = \underline{\qquad} = \underline{\qquad}$

$\frac{1}{2} - \frac{1}{3} = \underline{\qquad\qquad\qquad} = \underline{\qquad}$

$\frac{3}{4} - \frac{1}{6} = \underline{\qquad\qquad\qquad} = \underline{\qquad}$

Subtract.

$5\frac{1}{2} - 2 = \underline{\qquad}$

$3\frac{7}{8} - 1 = \underline{\qquad}$

$4\frac{2}{3} - 3 = \underline{\qquad}$

$6\frac{1}{4} - 4 = \underline{\qquad}$

$8\frac{5}{6} - 5 = \underline{\qquad}$

$7\frac{11}{12} - 3 = \underline{\qquad}$

$7\frac{5}{8} - \frac{3}{8} = 7\frac{2}{8} = 7\frac{1}{4}$

Find the differences.

$4\frac{3}{4} - \frac{1}{4} = \underline{\qquad} = \underline{\qquad}$

$3\frac{7}{12} - \frac{5}{12} = \underline{\qquad} = \underline{\qquad}$

$2\frac{2}{3} - \frac{2}{3} = \underline{\qquad}$

$9\frac{7}{10} - \frac{1}{10} = \underline{\qquad} = \underline{\qquad}$

$6\frac{4}{5} - \frac{1}{5} = \underline{\qquad}$

$8\frac{5}{6} - \frac{2}{6} = \underline{\qquad} = \underline{\qquad}$

$5\frac{11}{12} - \frac{3}{4} = 5\frac{11}{12} - \frac{9}{12} = 5\frac{2}{12} = 5\frac{1}{6}$

$2\frac{5}{6} - \frac{2}{3} = \underline{\qquad\qquad\qquad} = \underline{\qquad}$

$4\frac{7}{8} - \frac{1}{2} = \underline{\qquad\qquad\qquad} = \underline{\qquad}$

$3\frac{2}{3} - \frac{5}{12} = \underline{\qquad\qquad\qquad} = \underline{\qquad}$

$4\frac{1}{2} - \frac{3}{8} = \underline{\qquad\qquad\qquad} = \underline{\qquad}$

$6\frac{5}{6} - \frac{7}{12} = \underline{\qquad\qquad\qquad} = \underline{\qquad} = \underline{\qquad}$

$1\frac{2}{3} - \frac{1}{4} = \underline{\qquad\qquad\qquad} = \underline{\qquad}$

Compute.

$9\frac{11}{12} - 5\frac{1}{12} = 4\frac{\quad}{12} = 4\frac{\quad}{6}$

$5\frac{2}{3} - 3\frac{1}{3} = \underline{\qquad}$

$6\frac{4}{5} - 1\frac{2}{5} = \underline{\qquad}$

$4\frac{5}{6} - 3\frac{1}{6} = \underline{\qquad} = \underline{\qquad}$

$7\frac{9}{10} - 5\frac{3}{10} = \underline{\qquad} = \underline{\qquad}$

$3\frac{1}{2} - 1\frac{1}{2} = \underline{\qquad}$

$6\frac{11}{12} - 5\frac{2}{3} = 6\frac{\quad}{12} - 5\frac{\quad}{12} = 1\frac{\quad}{12} = 1\frac{\quad}{4}$

$8\frac{7}{10} - 3\frac{3}{5} = 8\frac{\quad}{10} - 3\frac{\quad}{10} = \underline{\qquad}$

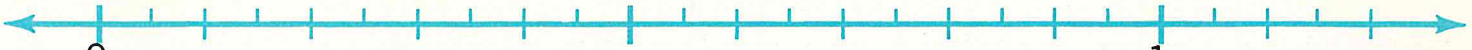
$4\frac{7}{8} - 1\frac{1}{4} = \underline{\qquad\qquad\qquad} = \underline{\qquad}$

$7\frac{5}{6} - 7\frac{2}{3} = \underline{\qquad\qquad\qquad} = \underline{\qquad}$

$5\frac{2}{3} - 2\frac{1}{6} = \underline{\qquad\qquad\qquad} = \underline{\qquad} = \underline{\qquad}$

$3\frac{2}{5} - 1\frac{3}{10} = \underline{\qquad\qquad\qquad} = \underline{\qquad}$

Fill in.



0										1		
$\frac{0}{2}$					$\frac{1}{2}$					○		
$\frac{0}{5}$		$\frac{1}{5}$		$\frac{2}{5}$		○		$\frac{4}{5}$		$\frac{5}{5}$		○
$\frac{0}{10}$	$\frac{1}{10}$	○	$\frac{3}{10}$	$\frac{4}{10}$	○	$\frac{6}{10}$	○	$\frac{8}{10}$	○	$\frac{10}{10}$	$\frac{11}{10}$	$\frac{12}{10}$
.0	.1	.2	○	.4	.5	○	.7	○	.9	1.0	○	1.2

Fill in.

$\frac{1}{5} = \frac{}{10} =$ ______

$\frac{3}{5} = \frac{}{10} =$ ______

$\frac{1}{2} = \frac{5}{} =$ ______

$\frac{4}{} = \frac{8}{10} =$ ______

$\frac{}{5} = \frac{4}{10} =$ ______

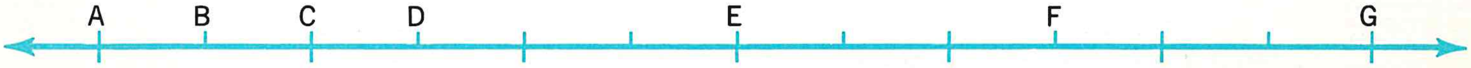
$\frac{}{5} = \frac{}{10} = 1.0$

$1\frac{2}{5} = 1\frac{}{10} =$ ______

$2\frac{1}{2} = 2\frac{}{10} =$ ______

$3\frac{4}{5} = 3\frac{}{10} =$ ______

Fill in the blanks.



0 $\frac{1}{2}$ 1 $1\frac{1}{2}$ 2 $2\frac{1}{2}$ 3 ____ ____ ____ ____ ____ ____

0 .5 1.0 1.5 2.0 2.5 3.0 ____ ____ ____ ____ ____ ____

Write each in decimal form.

From A to B = .5

A to C = 1.0

A to D = ______

A to E = ______

C to D = ______

C to E = ______

C to F = ______

B to C = ______

B to D = ______

D to E = ______

E to F = ______

E to G = ______

Write $>$, $=$, or $<$ on each ________.

$\frac{1}{2}$ ________ .2

$\frac{1}{2}$ ________ .5

$\frac{1}{2}$ ________ 2.0

$\frac{1}{5}$ ________ .2

$\frac{1}{5}$ ________ .5

$\frac{1}{5}$ ________ 2.0

.1 ________ 1

.1 ________ $\frac{1}{10}$

$\frac{10}{10}$ ________ 1

.6 ________ 1

1.0 ________ 1

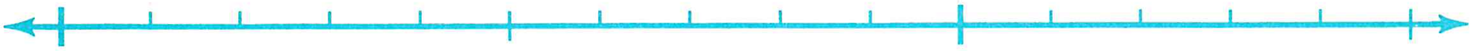
1 ________ 1.3

1.0 ________ .9

2 ________ .2

$1\frac{7}{10}$ ________ 1.7

Fill in the blanks.



$0 \quad .1 \quad .2 \quad .3 \quad .4 \quad .5 \quad \underline{\qquad} \quad .7 \quad \underline{\qquad} \quad .9 \quad 1.0 \quad \underline{\qquad} \quad 1.2 \quad \underline{\qquad} \quad 1.4 \quad \underline{\qquad}$

$\frac{0}{10} \quad \frac{1}{10} \quad \frac{2}{10} \quad \frac{3}{10} \quad \frac{4}{10} \quad \underline{\qquad} \quad \frac{6}{10} \quad \underline{\qquad} \quad \frac{8}{10} \quad \underline{\qquad} \quad \frac{10}{10} \quad \frac{11}{10} \quad \underline{\qquad} \quad \frac{13}{10} \quad \underline{\qquad} \quad \frac{15}{10}$

$0 \quad \frac{1}{2} \quad 1 \quad 1\frac{1}{2}$

$.5 + .3 = \frac{5}{10} + \frac{3}{10} = \frac{8}{10}$

$\frac{4}{10} + \frac{2}{10} = .4 + .2 = .6$

$.7 + .2 = \frac{7}{10} + \underline{\qquad} = \underline{\qquad}$

$.1 + .5 = \underline{\qquad} + \frac{5}{10} = \underline{\qquad}$

$1.3 + .4 = \underline{\qquad} + \underline{\qquad} = \underline{\qquad}$

$.6 + 1.2 = \underline{\qquad} + \underline{\qquad} = \underline{\qquad}$

$1.2 + 1.3 = \underline{\qquad} + \underline{\qquad} = \underline{\qquad}$

$\frac{6}{10} + \frac{1}{10} = .6 + \underline{\qquad} = \underline{\qquad}$

$\frac{3}{10} + \frac{5}{10} = \underline{\qquad} + .5 = \underline{\qquad}$

$2\frac{7}{10} + \frac{2}{10} = \underline{\qquad} + \underline{\qquad} = \underline{\qquad}$

$\frac{3}{10} + 1\frac{5}{10} = \underline{\qquad} + \underline{\qquad} = \underline{\qquad}$

$2\frac{4}{10} + 1\frac{2}{10} = \underline{\qquad} + \underline{\qquad} = \underline{\qquad}$

$(.4 + .7) + .3 = .4 + (.7 + .3)$

Find the sums.

$$\begin{aligned} .8 + .9 &= .8 + (.2 + .7) \\ &= (.8 + .2) + .7 \\ &= 1.0 + .7 \\ &= \underline{\qquad} \end{aligned}$$

$$\begin{aligned} 2.6 + .7 &= 2.6 + (\underline{\qquad} + \underline{\qquad}) \\ &= (\underline{\qquad} + \underline{\qquad}) + \underline{\qquad} \\ &= \underline{\qquad} + \underline{\qquad} \\ &= \underline{\qquad} \end{aligned}$$

$$\begin{aligned} 3.8 + .5 &= 3.8 + (.2 + .3) \\ &= (3.8 + \underline{\qquad}) + \underline{\qquad} \\ &= \underline{\qquad} + \underline{\qquad} \\ &= \underline{\qquad} \end{aligned}$$

$$\begin{aligned} 5.8 + .6 &= 5.8 + (\underline{\qquad} + \underline{\qquad}) \\ &= (\underline{\qquad} + \underline{\qquad}) + \underline{\qquad} \\ &= \underline{\qquad} + \underline{\qquad} \\ &= \underline{\qquad} \end{aligned}$$

Add.

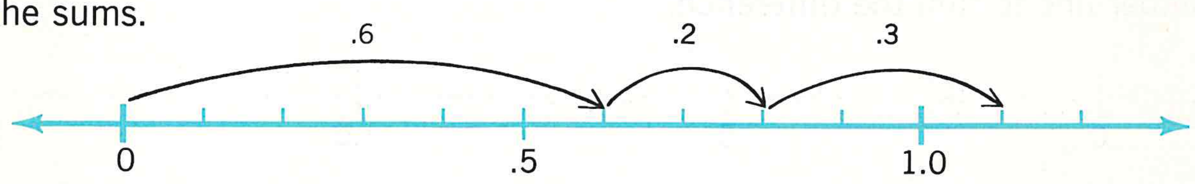
7 + 2	6 + 8	13 + 24	27 + 15	35 + 89	107 + 96

Find the sums.

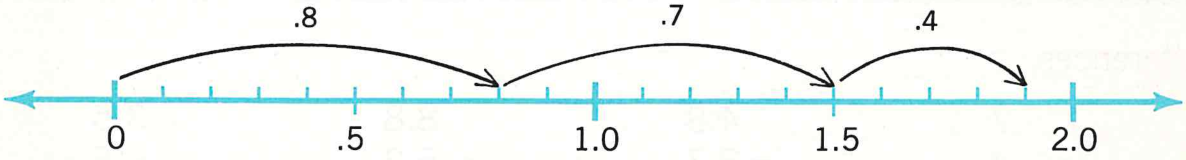
.7 + .2	.6 + .8	1.5 + 2.4	3.8 + 1.5	2.7 + 6.8	10.7 + 9.6

Find the sums.

.6
.2
+ .3



.8
.7
+ .4

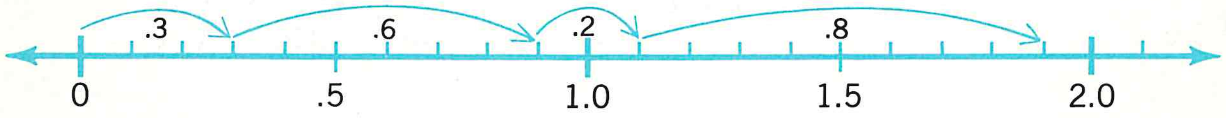


Add.

2.3 .4 + 4.2	6.0 1.8 + .9	3.7 2.5 + 1.8	5.3 2.4 1.0 + 3.6	10.2 4.9 1.3 + 7.6	3.2 16.1 9.8 + 11.7	10.1 71.8 36.4 + 15.7

Use the number lines as shown and find the sums.

.3 + .6 + .2 + .8 = ☐



.7 + .5 + .3 + .8 = ☐

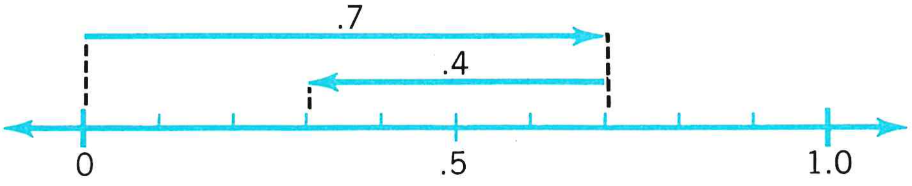
.4 + .9 + .2 + .7 = ☐

Subtract.

$$\begin{array}{rrrrr} 7 & 14 & 35 & 60 & 83 \\ -4 & -8 & -12 & -45 & -58 \\ \hline \end{array}$$

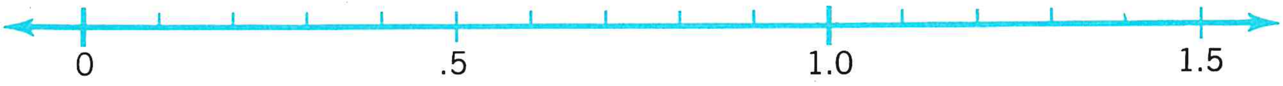
Find the difference on the number line.

$$\begin{array}{r} .7 \\ -.4 \\ \hline \end{array}$$



Use the number line to find the difference.

$$\begin{array}{r} 1.4 \\ -.8 \\ \hline \end{array}$$



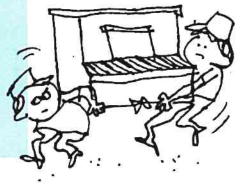
Find the differences.

$$\begin{array}{rrrrr} .9 & .7 & 4.8 & 8.8 & 3.5 \\ -.8 & -.4 & -3.7 & -5.2 & -.6 \\ \hline \end{array}$$

$$\begin{array}{rrrrr} 7.7 & 9.2 & 6.7 & 5.2 & 8.5 \\ -.9 & -.5 & -1.9 & -4.8 & -6.7 \\ \hline \end{array}$$

Subtract and check by addition.

$$\begin{array}{rr} 1.7 & 1.1 \\ -.6 & +.6 \\ \hline 1.1 & 1.7 \end{array}$$



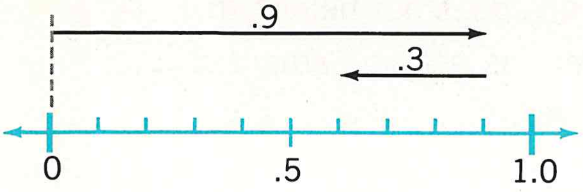
$$\begin{array}{rrrrrr} 3.5 & \square & 4.2 & \square & 6.0 & \square \\ -1.4 & +1.4 & -.5 & +.5 & -4.8 & +4.8 \\ \hline \square & \bigcirc & \square & \bigcirc & \square & \bigcirc \end{array}$$

Find the difference between 3.7 and 2.6. _____

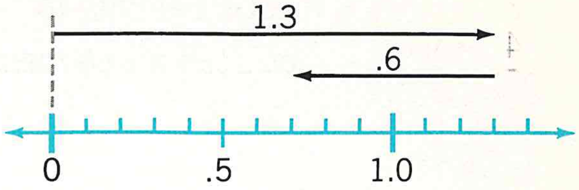
8.2 minus 4.4 equals _____.

Subtract on the number line.

$$\begin{array}{r} .9 \\ -\,.3 \\ \hline \end{array}$$



$$\begin{array}{r} 1.3 \\ -\,.6 \\ \hline \end{array}$$



$.6 + .2 = .8$ $\quad$ $.8 - .2 = .6$

$.2 + .6 = .8$ $\quad$ $.8 - .6 = .2$

.7 + .1 = ____ $\quad$ .8 − .1 = ____

.1 + .7 = ____ $\quad$ .8 − .7 = ____

.4 + .8 = ____ $\quad$ 1.2 − .8 = ____

.8 + .4 = ____ $\quad$ 1.2 − .4 = ____

1.3 + .9 = ____ $\quad$ ____ − .9 = 1.3

.9 + 1.3 = ____ $\quad$ ____ − 1.3 = .9

2.7 + ____ = 3.3 $\quad$ 3.3 − ____ = 2.7

____ + 2.7 = 3.3 $\quad$ 3.3 − 2.7 = ____

____ + 1.7 = 6.2 $\quad$ 6.2 − 1.7 = ____

1.7 + ____ = 6.2 $\quad$ 6.2 − ____ = 1.7

$.9 - .3 = \frac{9}{10} - \frac{3}{10} = \frac{6}{10}$

$\frac{7}{10} - \frac{2}{10} = .7 - .2 = .5$

Subtract.

$.8 - .4 = \frac{8}{10} - \frac{}{10} = \underline{\qquad}$

$1.5 - .2 = 1\frac{5}{10} - \frac{}{} = \underline{\qquad}$

$1.0 - .1 = 1 - \frac{}{} = \underline{\qquad}$

$2.4 - 1.4 = 2\frac{}{10} - 1\frac{}{10} = \underline{\qquad}$

$4.2 - .8 = \underline{\qquad} - \frac{}{10} = \underline{\qquad}$

$1\frac{9}{10} - \frac{6}{10} = 1.9 - \boxed{} = \underline{\qquad}$

$1\frac{2}{10} - 1 = \boxed{} - 1 = \underline{\qquad}$

$3\frac{3}{10} - 1\frac{2}{10} = 3.3 - \boxed{} = \underline{\qquad}$

$7\frac{6}{10} - 5\frac{7}{10} = \boxed{} - 5.7 = \underline{\qquad}$

$2 - 1\frac{5}{10} = \boxed{} - \bigcirc = \underline{\qquad}$

From 3.9 subtract .7. ____

From 6.2 subtract 5.1. ____

8.7 minus 4.4 equals ____.

7.0 minus 6.5 equals ____.

Find the difference between 4.8 and 2.6. ____

Find the difference between 7.0 and 5.4. ____

∈ means belongs to
or is an *element* of

∉ means does not belong to
or is *not an element* of

P = {□, ○, △}	S = {a, b, c, d, e}	T = {1, 2, 3, 4, 5, 6, 7, 8, 9, 10}
□ ∈ P	g ∉ S	3 ____ T
◇ ∉ P	b ∈ S	11 ____ T
△ ____ P	c ____ S	8 ____ T
○ ____ P	f ____ S	2 ____ T
☆ ____ P	a ____ S	6 ____ T

△∈ P   d ∈ ____   ○ ∈ ____   4 ∈ ____   c ∈ ____   10 ∈ ____

D = {11, 12, 13, 14}

N(D) = 4 means the *number* of elements in set D equals 4.

P = {□, ○, △}	S = {a, b, c, d, e}	T = {1, 2, 3, 4, 5, 6, 7, 8, 9, 10}
N(P) = 3	N(S) = ____	N(T) = ____

A = {1, 2, 3}   B = { }   C = {1}

B ⊂ A means set B is a *subset* of set A.

C ⊂ A means set C is a *subset* of set A.

There are 8 subsets of A.

Write the subsets of set A.

____, ____, ____, ____,

____, ____, ____, ____

$X = \{a, b\}$ $Y = \{f, g\}$ $Z = \{b, c, d\}$

$X \cup Y$ means set X *union* set Y
$X \cup Y = \{a, b, f, g\}$

$X \cup Z$ means set X *union* set Z
$X \cup Z = \{a, b, c, d\}$

Find the unions.

$P = \{1, 2, 3\}$ $Q = \{9, 8, 6, 5\}$
$P \cup Q =$ ____________

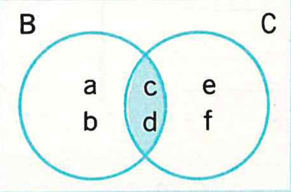
$R = \{e, f, g\}$ $S = \{j, i, h, g\}$
$R \cup S =$ ____________

$S = \{3, 6, 9\}$ $T = \{2, 4, 6, 8\}$ $W = \{\ \}$
$S \cup T =$ ____________ $T \cup W =$ ____________ $S \cup W =$ ____________

$B = \{a, b, c, d\}$ $C = \{c, d, e, f\}$

$B \cap C$ means set B *intersection* set C

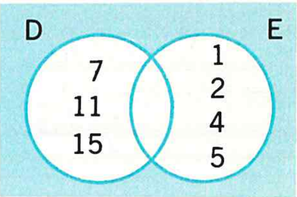
$B \cap C = \{c, d\}$



Find the intersections. Complete the diagram.

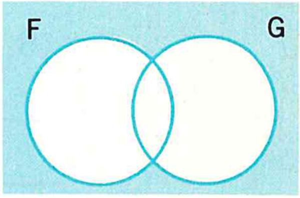
$D = \{3, 7, 11, 15\}$ $E = \{1, 2, 3, 4, 5\}$

$D \cap E =$ ________



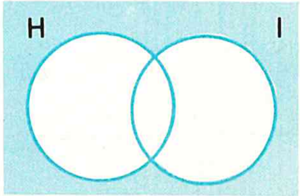
$F = \{1, 2, 3, 4\}$ $G = \{3, 4, 5, 6, 7\}$

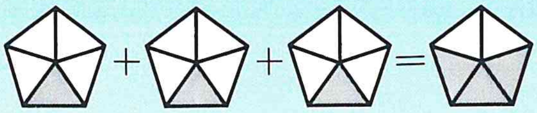
$F \cap G =$ ________



$H = \{1, 4, 7, 10\}$ $I = \{3, 6, 9, 12\}$

$H \cap I =$ ________

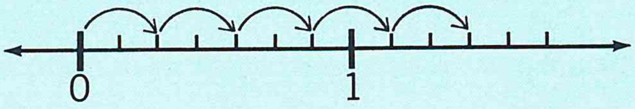




$$\frac{1}{5} + \frac{1}{5} + \frac{1}{5} = \frac{3}{5}$$

$$3 \times \frac{1}{5} = \frac{3}{5}$$

$$\frac{2}{7} + \frac{2}{7} + \frac{2}{7} + \frac{2}{7} + \frac{2}{7} = \frac{10}{7} = 1\frac{3}{7}$$



$$5 \times \frac{2}{7} = \frac{10}{7} = 1\frac{3}{7}$$

$$5 \times \frac{2}{3} = \frac{5}{1} \times \frac{2}{3} = \frac{10}{3} \text{ or } 3\frac{1}{3}$$

Find the products.

$5 \times \frac{5}{6} =$ _____

$3 \times \frac{4}{9} =$ _____

$9 \times \frac{3}{4} =$ _____

$7 \times \frac{2}{5} =$ _____

$8 \times \frac{3}{10} =$ _____

$6 \times \frac{1}{2} =$ _____

$5 \times \frac{7}{8} =$ _____

$4 \times \frac{3}{5} =$ _____

$9 \times \frac{1}{3} =$ _____

$6 \times \frac{5}{6} =$ _____

$2 \times \frac{3}{8} =$ _____

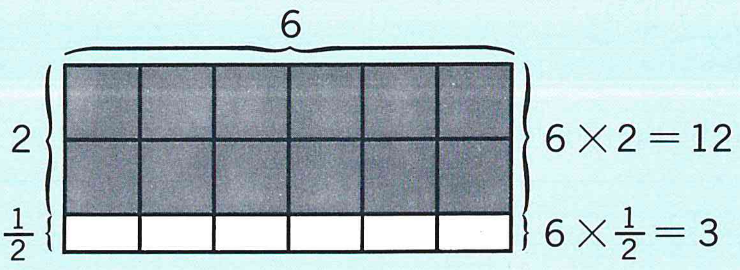
$8 \times \frac{7}{12} =$ _____

$6 \times \frac{2}{3} =$ _____

$10 \times \frac{3}{5} =$ _____

$7 \times \frac{7}{8} =$ _____

$$\begin{aligned} 6 \times 2\tfrac{1}{2} &= 6 \times (2 + \tfrac{1}{2}) \\ &= (6 \times 2) + (6 \times \tfrac{1}{2}) \\ &= 12 + 3 \\ &= 15 \end{aligned}$$



$8 \times 3\frac{1}{4} = 8 \times (3 + \frac{1}{4})$

$= (8 \times 3) + (8 \times \frac{1}{4})$

$=$ _____ $+$ _____

$=$ _____

$4 \times 5\frac{2}{3} = 4 \times (5 + \frac{2}{3})$

$= (4 \times 5) + (4 \times \frac{2}{3})$

$=$ _____ $+$ _____

$=$ _____

$5 \times 3\frac{2}{5} = 5 \times (3 + \frac{2}{5})$

$= (5 \times 3) + (5 \times \frac{2}{5})$

$=$ _____ $+$ _____

$=$ _____

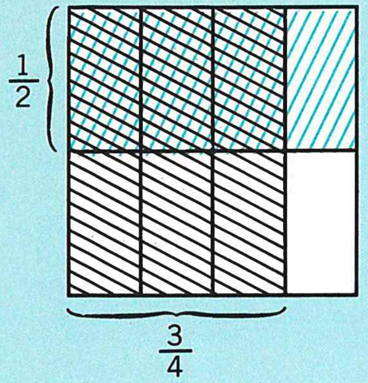
$7 \times 4\frac{3}{8} = 7 \times (4 + \frac{3}{8})$

$= (7 \times 4) + (7 \times \frac{3}{8})$

$=$ _____ $+$ _____

$=$ _____

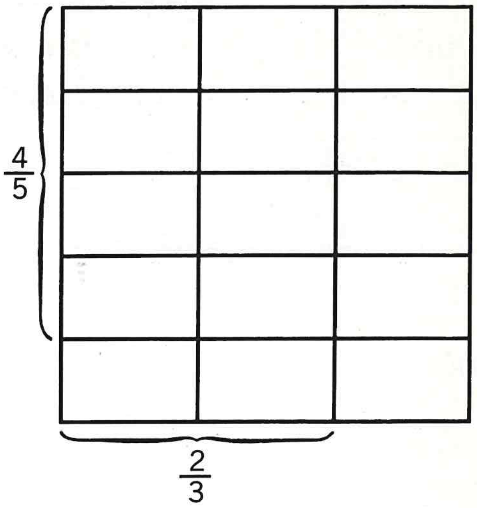
$\frac{1}{2} \times \frac{3}{4} = \frac{3}{4} \times \frac{1}{2} = \frac{3}{8}$



$\frac{2}{5} \times \frac{3}{8} = \frac{2 \times 3}{5 \times 8} = \frac{6}{40}$ or $\frac{3}{20}$

Fill in the blank
and shade in the square.

$\frac{4}{5} \times \frac{2}{3} = \frac{2}{3} \times \frac{4}{5} =$ ______



Find the products.

$\frac{5}{6} \times \frac{1}{4} = \frac{\quad \times \quad}{\quad \times \quad} =$ ________

$\frac{7}{12} \times \frac{1}{3} = \frac{\quad \times \quad}{\quad \times \quad} =$ ________

$\frac{3}{4} \times \frac{1}{3} = \frac{\quad \times \quad}{\quad \times \quad} =$ ________

$\frac{3}{5} \times \frac{1}{4} = \frac{\quad \times \quad}{\quad \times \quad} =$ ________

$\frac{3}{5} \times \frac{5}{8} = \frac{\quad \times \quad}{\quad \times \quad} =$ ________

$\frac{1}{2} \times \frac{5}{6} = \frac{\quad \times \quad}{\quad \times \quad} =$ ________

$\frac{2}{3} \times \frac{1}{2} = \frac{\quad \times \quad}{\quad \times \quad} =$ ________

$\frac{2}{3} \times \frac{1}{6} = \frac{\quad \times \quad}{\quad \times \quad} =$ ________

$\frac{4}{5} \times \frac{2}{3} = \frac{\quad \times \quad}{\quad \times \quad} =$ ________

$\frac{7}{9} \times \frac{3}{5} = \frac{\quad \times \quad}{\quad \times \quad} =$ ________

Multiply.

$\frac{2}{3} \times \frac{2}{9} =$ ________

$\frac{4}{5} \times \frac{2}{3} =$ ________

$\frac{3}{10} \times \frac{2}{5} =$ ________

$\frac{3}{7} \times \frac{5}{8} =$ ________

$\frac{5}{12} \times \frac{3}{4} =$ ________

$\frac{1}{2} \times \frac{3}{4} =$ ________

$\frac{1}{8} \times \frac{2}{3} =$ ________

$\frac{2}{3} \times \frac{3}{4} =$ ________

$\frac{1}{7} \times \frac{2}{9} =$ ________

$\frac{3}{8} \times \frac{4}{6} =$ ________

$6 \times \frac{3}{8} =$ ________

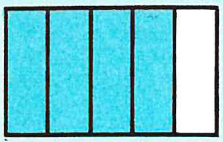
$4 \times \frac{2}{5} =$ ________

$3 \times \frac{2}{3} =$ ________

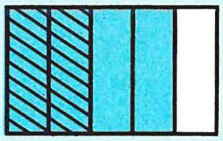
$5 \times \frac{5}{7} =$ ________

$10 \times \frac{3}{9} =$ ________

$\frac{4}{5}$ divided into 2 equal parts $= \frac{2}{5}$



$\frac{4}{5}$ unit

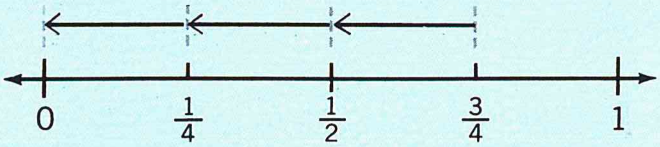


$\frac{4}{5}$ unit divided into 2 parts $= \frac{2}{5}$

$$\frac{4}{5} \div 2 = \frac{4}{5} \div \frac{2}{1}$$

$$= \frac{4}{5} \times \frac{1}{2} = \frac{4}{10} = \frac{2}{5}$$

$\frac{3}{4}$ divided into 3 equal parts $= \frac{1}{4}$



$$\frac{3}{4} \div 3 = \frac{3}{4} \div \frac{3}{1}$$

$$= \frac{3 \div 3}{4 \div 1} = \frac{1}{4}$$

Divide.

$\frac{5}{6} \div 5 =$ _____

$=$ _____

$\frac{2}{3} \div 2 =$ _____

$=$ _____

$\frac{3}{5} \div 6 =$ _____

$=$ _____

$\frac{4}{9} \div 4 =$ _____

$=$ _____

$\frac{4}{7} \div 2 =$ _____

$=$ _____

$\frac{7}{8} \div 7 =$ _____

$=$ _____

$\frac{1}{3} \div 2 =$ _____

$=$ _____

$\frac{1}{8} \div 3 =$ _____

$=$ _____

$\frac{2}{4} \div 12 =$ _____

$=$ _____

$$12\tfrac{3}{8} \div 3 = 12\tfrac{3}{8} \times \tfrac{1}{3}$$

$$= (12 \times \tfrac{1}{3}) + (\tfrac{3}{8} \times \tfrac{1}{3})$$

$$= 4 + \tfrac{1}{8}$$

$$= 4\tfrac{1}{8}$$

$12\frac{4}{5} \div 4 = 12\frac{4}{5} \times$ _____

$= (12 \times \frac{1}{4}) + ($_____ $\times \frac{1}{4})$

$=$ _____ $+$ _____

$=$ _____

Find the quotients.

$24\frac{8}{10} \div 8 = 24\frac{8}{10} \times$ _____

$= ($_____ $\times \frac{1}{8}) + ($_____ $\times \frac{1}{8})$

$=$ _____ $+$ _____

$=$ _____

$30\frac{2}{5} \div 3 = 30\frac{2}{5} \times$ _____

$= (30 \times$ _____$) + (\frac{2}{5} \times$ _____$)$

$=$ _____ $+$ _____

$=$ _____

$$\frac{8}{15} \div \frac{4}{5} = \frac{8 \div 4}{15 \div 5} = \frac{2}{3}$$

$$\frac{8}{15} \times \frac{5}{4} = \frac{40}{60} = \frac{2}{3}$$

$$\frac{8}{9} \div 4 = \frac{8}{9} \div \frac{4}{1} = \frac{8 \div 4}{9 \div 1} = \frac{2}{9}$$

$$= \frac{8}{9} \times \frac{1}{4} = \frac{8}{36} = \frac{2}{9}$$

Fill in the blanks.

$\frac{4}{9} \div \frac{2}{3} = \frac{\div}{\div} = \underline{\qquad}$

$\frac{4}{9} \times \frac{3}{2} = \underline{\qquad} = \underline{\qquad}$

$\frac{2}{5} \div \frac{1}{5} = \frac{\div}{\div} = \underline{\qquad} = \underline{\qquad}$

$\frac{2}{5} \times \frac{5}{1} = \underline{\qquad} = \underline{\qquad}$

$\frac{6}{7} \div \frac{6}{7} = \frac{\div}{\div} = \underline{\qquad} = \underline{\qquad}$

$\frac{6}{7} \times \frac{7}{6} = \underline{\qquad} = \underline{\qquad}$

$\frac{5}{6} \div \frac{1}{3} = \frac{\div}{\div} = \underline{\qquad} = \underline{\qquad}$

$\frac{5}{6} \times \frac{3}{1} = \underline{\qquad} = \underline{\qquad}$

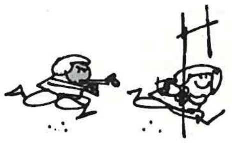
$\frac{3}{4} \div \frac{1}{2} = \frac{\div}{\div} = \underline{\qquad} = \underline{\qquad}$

$\frac{3}{4} \times \frac{2}{1} = \underline{\qquad} = \underline{\qquad}$

$\frac{4}{5} \div 2 = \frac{\div}{\div} = \underline{\qquad}$

$\frac{4}{5} \times \frac{1}{2} = \underline{\qquad} = \underline{\qquad}$

$$\frac{2}{3} \div \frac{1}{2} = \frac{2}{3} \times \frac{2}{1} = \frac{4}{3} = 1\frac{1}{3}$$



Now try solving the problems the short way.

$\frac{3}{4} \div \frac{4}{5} = \frac{3}{4} \times \underline{\qquad} = \underline{\qquad}$

$\frac{1}{2} \div \frac{2}{3} = \frac{1}{2} \times \underline{\qquad} = \underline{\qquad}$

$\frac{4}{5} \div \frac{3}{4} = \underline{\qquad\quad} = \underline{\qquad} = \underline{\qquad}$

$8 \div \frac{1}{4} = \frac{8}{1} \times \underline{\qquad} = \underline{\qquad} = \underline{\qquad}$

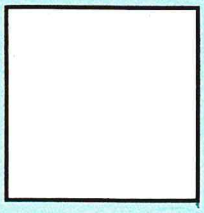
$7 \div \frac{3}{4} = \underline{\qquad\quad} = \underline{\qquad} = \underline{\qquad}$

$4 \div \frac{8}{9} = \underline{\qquad\quad} = \underline{\qquad} = \underline{\qquad}$

Does $\frac{2}{3} \div \frac{1}{2} = \frac{1}{2} \div \frac{2}{3}$? $\underline{\qquad\qquad}$

Does $4 \div \frac{8}{9} = \frac{8}{9} \div 4$? $\underline{\qquad\qquad}$

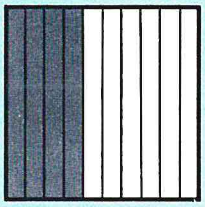
Does $\frac{3}{4} \div \frac{4}{5} = \frac{3}{4} \times \frac{5}{4}$? $\underline{\qquad\qquad}$



unit square

unit square

tenths

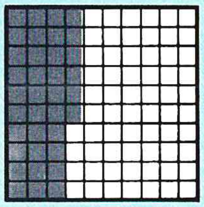


$\frac{4}{10}$ is shaded

$\frac{4}{10} = .4$

unit square

hundredths



$\frac{36}{100}$ is shaded

$\frac{36}{100} = .36$

Write each in decimal form.

$\frac{7}{10} =$ ____
$\frac{9}{10} =$ ____
$\frac{3}{100} =$ ____

$\frac{3}{10} =$ ____
$\frac{30}{100} =$ ____
$1\frac{1}{10} =$ ____

$\frac{43}{100} =$ ____
$\frac{59}{100} =$ ____
$4\frac{7}{10} =$ ____

$\frac{72}{100} =$ ____
$\frac{99}{100} =$ ____
$9\frac{67}{100} =$ ____

Write each as a fraction in tenths or hundredths.

.8 = ____
.72 = ____
.48 = ____

.5 = ____
.84 = ____
.91 = ____

.25 = ____
.06 = ____
.08 = ____

.91 = ____
5.37 = ____
7.44 = ____

Write >, =, or < on each ....

.7 .... $\frac{7}{100}$
.7 7
.7 .... .07
.7 .... $\frac{7}{10}$

.5 .... $\frac{1}{5}$
.5 .... $\frac{5}{10}$
.5 .... $\frac{5}{100}$
.5 .... .05

.25 .... $\frac{25}{100}$
.25 .... $\frac{25}{10}$
.25 .... 2.5
.25 .... $\frac{1}{4}$

Write each as a fraction in simplest form.

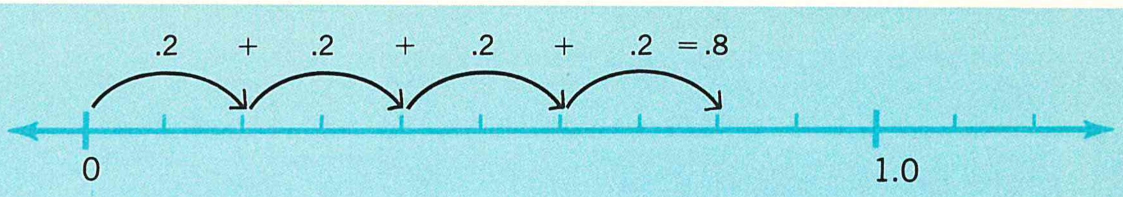
.25 = ____
.5 = ____
.2 = ____

.7 = ____
.75 = ____
.4 = ____

$.33\frac{1}{3} =$ ____
$.66\frac{2}{3} =$ ____
.6 = ____

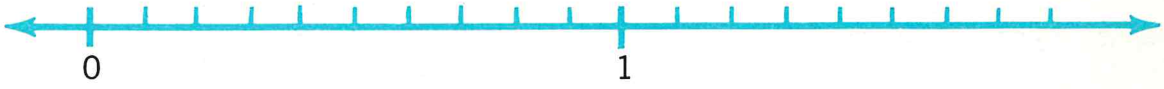
.8 = ____
$.12\frac{1}{2} =$ ____
$.16\frac{2}{3} =$ ____

4 × .2 = .8

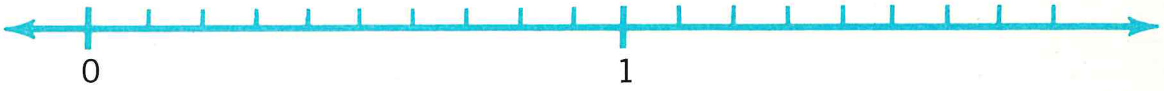


Solve each problem on the number line.

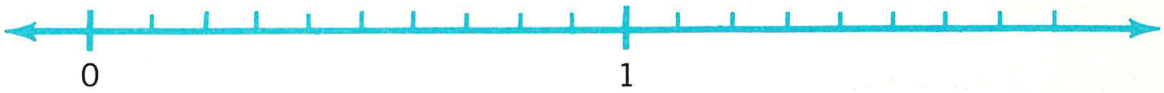
5 × .3 = ____



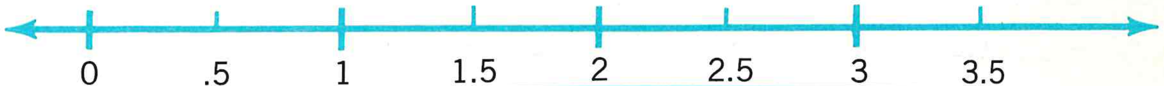
2 × .8 = ____



4 × .4 = ____



6 × .5 = ____



Find the products.

4 × .5 = ☐

2 × .8 = ☐

9 × .3 = ☐

6 × .6 = ☐

5 × .7 = ☐

8 × .3 = ☐

4 × .7 = ☐

7 × .6 = ☐

9 × .2 = ☐

8 × .4 = ☐

6 × .9 = ☐

3 × .8 = ☐

7 × .8 = ☐

5 × .6 = ☐

4 × .8 = ☐

6 × .7 = ☐

3 × .5 = ☐

8 × .6 = ☐

Write >, =, or < on each --------.

.6 -------- $\frac{1}{2}$

.5 -------- $\frac{1}{2}$

.4 -------- $\frac{1}{2}$

.9 -------- 1

1.0 -------- 1

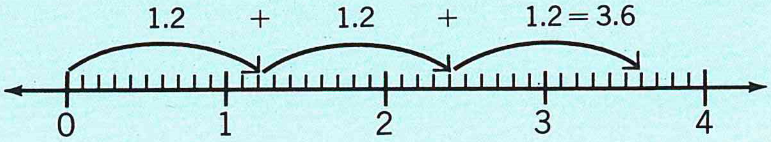
1.1 -------- 1

.2 -------- $\frac{1}{2}$

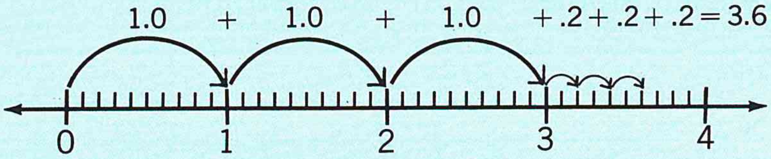
1.2 -------- $\frac{1}{2}$

.1 -------- $\frac{1}{2}$

$3 \times 1.2 = 3 \times (1.0 + .2)$
$= (3 \times 1) + (3 \times .2)$
$= 3 + .6$
$= 3.6$



or



Fill in.

$4 \times 1.4 = 4 \times (1 + .4)$
$= (4 \times 1) + (4 \times .4)$
$= \underline{\quad\quad} + \underline{\quad\quad}$
$= \underline{\quad\quad}$

$7 \times 4.8 = 7 \times (4 + .8)$
$= (\underline{\quad\quad} \times \underline{\quad\quad}) + (\underline{\quad\quad} \times \underline{\quad\quad})$
$= \underline{\quad\quad} + \underline{\quad\quad}$
$= \underline{\quad\quad}$

$3 \times 9.4 = 3 \times (\underline{\quad\quad} + \underline{\quad\quad})$
$= (\underline{\quad\quad} \times \underline{\quad\quad}) + (\underline{\quad\quad} \times \underline{\quad\quad})$
$= \underline{\quad\quad} + \underline{\quad\quad}$
$= \underline{\quad\quad}$

$5 \times 7.3 = 5 \times (\underline{\quad\quad} + \underline{\quad\quad})$
$= (\underline{\quad\quad} \times \underline{\quad\quad}) + (\underline{\quad\quad} \times \underline{\quad\quad})$
$= \underline{\quad\quad} + \underline{\quad\quad}$
$= \underline{\quad\quad}$

$6 \times 3.5 = 6 \times (3 + .5)$
$= (6 \times \underline{\quad\quad}) + (6 \times \underline{\quad\quad})$
$= \underline{\quad\quad} + \underline{\quad\quad}$
$= \underline{\quad\quad}$

$5 \times 8.6 = 5 \times (8 + .6)$
$= (\underline{\quad\quad} \times \underline{\quad\quad}) + (\underline{\quad\quad} \times \underline{\quad\quad})$
$= \underline{\quad\quad} + \underline{\quad\quad}$
$= \underline{\quad\quad}$

$4 \times 6.7 = 4 \times (\underline{\quad\quad} + \underline{\quad\quad})$
$= (\underline{\quad\quad} \times \underline{\quad\quad}) + (\underline{\quad\quad} \times \underline{\quad\quad})$
$= \underline{\quad\quad} + \underline{\quad\quad}$
$= \underline{\quad\quad}$

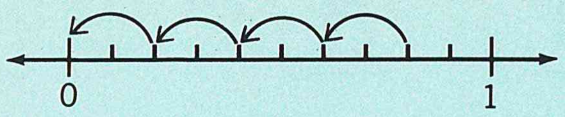
$6 \times 7.2 = 6 \times (\underline{\quad\quad} + \underline{\quad\quad})$
$= (\underline{\quad\quad} \times \underline{\quad\quad}) + (\underline{\quad\quad} \times \underline{\quad\quad})$
$= \underline{\quad\quad} + \underline{\quad\quad}$
$= \underline{\quad\quad}$

Write >, =, or < on each ....

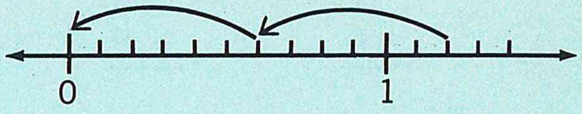
3×1.4 4
5×1.2 6
$10 \times .9$ 10

$7 \times .5$ .... $3\frac{1}{2}$
4×2.1 8
6×1.8 12

3×5.9 18
8×3.1 24
2×9.5 19



.8 ÷ 4 = .2



1.2 ÷ 2 = .6

Fill in the ☐.

.6 ÷ 2 = ☐
1.5 ÷ 3 = ☐
1.8 ÷ 9 = ☐
2.1 ÷ 7 = ☐
4.0 ÷ 8 = ☐
3.5 ÷ 5 = ☐
4.8 ÷ 6 = ☐

2.4 ÷ 8 = ☐
4.5 ÷ 9 = ☐
2.0 ÷ 5 = ☐
2.4 ÷ 4 = ☐
3.2 ÷ 8 = ☐
2.8 ÷ 4 = ☐
1.8 ÷ 6 = ☐

4.2 ÷ 7 = ☐
2.7 ÷ 3 = ☐
3.6 ÷ 9 = ☐
5.6 ÷ 8 = ☐
2.5 ÷ 5 = ☐
5.4 ÷ 6 = ☐

13.3 Quotient		
3)39.9		
30.0	10	×3
9.9		
9.0	3	×3
.9		
.9	.3	×3
	13.3	

Find the quotients.

4)64.8		
		×4
		×4
		×4

5)72.5		
		×5
		×5
		×5

8)129.6	

Find the products.

$$\begin{array}{r} 23 \\ \times 3 \\ \hline \end{array} \qquad \begin{array}{r} 31 \\ \times 6 \\ \hline \end{array} \qquad \begin{array}{r} 14 \\ \times 8 \\ \hline \end{array} \qquad \begin{array}{r} 58 \\ \times 7 \\ \hline \end{array} \qquad \begin{array}{r} 86 \\ \times 9 \\ \hline \end{array}$$

Multiply.

$$\begin{array}{r} 43 \\ \times 30 \\ \hline \end{array} \qquad \begin{array}{r} 62 \\ \times 40 \\ \hline \end{array} \qquad \begin{array}{r} 95 \\ \times 70 \\ \hline \end{array} \qquad \begin{array}{r} 58 \\ \times 60 \\ \hline \end{array} \qquad \begin{array}{r} 73 \\ \times 50 \\ \hline \end{array}$$

$$\begin{array}{rcr} 32 & & \\ \times 24 & & \\ \cline{1-1} 128 & \longrightarrow & 4 \times 32 \\ 640 & \longrightarrow & 20 \times 32 \\ \cline{1-1}\cline{3-3} 768 & \longrightarrow & 24 \times 32 \end{array}$$

$$\begin{array}{rcr} 54 & & \\ \times 32 & & \\ \cline{1-1} & \longrightarrow & 2 \times 54 \\ & \longrightarrow & 30 \times 54 \\ \cline{1-1}\cline{3-3} & \longrightarrow & 32 \times 54 \end{array}$$

$$\begin{array}{rcr} 83 & & \\ \times 26 & & \\ \cline{1-1} & \longrightarrow & 6 \times 83 \\ & \longrightarrow & 20 \times 83 \\ \cline{1-1}\cline{3-3} & \longrightarrow & 26 \times 83 \end{array}$$

$$\begin{array}{rcr} 38 & & \\ \times 71 & & \\ \cline{1-1} & \longrightarrow & 1 \times 38 \\ & \longrightarrow & 70 \times 38 \\ \cline{1-1}\cline{3-3} & \longrightarrow & 71 \times 38 \end{array}$$

$$\begin{array}{rcr} 64 & & \\ \times 42 & & \\ \cline{1-1} & \longrightarrow & 2 \times 64 \\ & \longrightarrow & 40 \times 64 \\ \cline{1-1}\cline{3-3} & \longrightarrow & 42 \times 64 \end{array}$$

$$\begin{array}{rcr} 207 & & \\ \times 63 & & \\ \cline{1-1} & \longrightarrow & 3 \times 207 \\ & \longrightarrow & 60 \times 207 \\ \cline{1-1}\cline{3-3} & \longrightarrow & 63 \times 207 \end{array}$$

$$\begin{array}{rcr} 170 & & \\ \times 51 & & \\ \cline{1-1} & \longrightarrow & 1 \times 170 \\ & \longrightarrow & 50 \times 170 \\ \cline{1-1}\cline{3-3} & \longrightarrow & 51 \times 170 \end{array}$$

$$\begin{array}{rcr} 905 & & \\ \times 82 & & \\ \cline{1-1} & \longrightarrow & 2 \times 905 \\ & \longrightarrow & 80 \times 905 \\ \cline{1-1}\cline{3-3} & \longrightarrow & 82 \times 905 \end{array}$$

$$\begin{array}{rcr} 56 & & \\ \times 23 & & \\ \hline 168 & \longrightarrow & 3 \times 56 \\ 1120 & \longrightarrow & 20 \times 56 \\ \hline 1288 & \longrightarrow & 23 \times 56 \end{array}$$

$$\begin{array}{r} 56 \\ \times 23 \\ \hline 168 \\ 112 \\ \hline 1288 \end{array}$$

$$\begin{array}{r} 32 \\ \times 14 \\ \hline \end{array} \qquad \begin{array}{r} 81 \\ \times 52 \\ \hline \end{array}$$

Multiply.

$$\begin{array}{r} 73 \\ \times 16 \\ \hline \end{array} \qquad \begin{array}{r} 40 \\ \times 37 \\ \hline \end{array} \qquad \begin{array}{r} 54 \\ \times 25 \\ \hline \end{array} \qquad \begin{array}{r} 69 \\ \times 31 \\ \hline \end{array}$$

$$\begin{array}{r} 93 \\ \times 70 \\ \hline \end{array} \qquad \begin{array}{r} 76 \\ \times 34 \\ \hline \end{array} \qquad \begin{array}{r} 54 \\ \times 48 \\ \hline \end{array} \qquad \begin{array}{r} 80 \\ \times 30 \\ \hline \end{array}$$

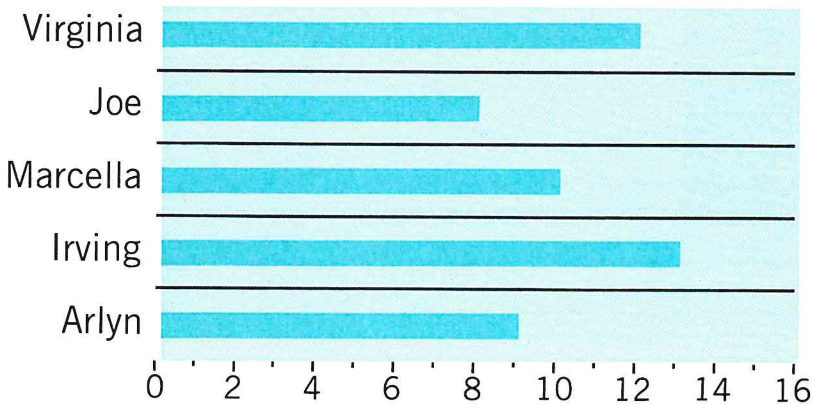
Find the products.

$$\begin{array}{r} 312 \\ \times 42 \\ \hline \end{array} \qquad \begin{array}{r} 621 \\ \times 13 \\ \hline \end{array} \qquad \begin{array}{r} 815 \\ \times 62 \\ \hline \end{array}$$

$$\begin{array}{r} 407 \\ \times 54 \\ \hline \end{array} \qquad \begin{array}{r} 510 \\ \times 73 \\ \hline \end{array} \qquad \begin{array}{r} 700 \\ \times 61 \\ \hline \end{array}$$

$$\begin{array}{r} 904 \\ \times 75 \\ \hline \end{array} \qquad \begin{array}{r} 525 \\ \times 84 \\ \hline \end{array} \qquad \begin{array}{r} 302 \\ \times 401 \\ \hline \end{array}$$

School Play Tickets Sold



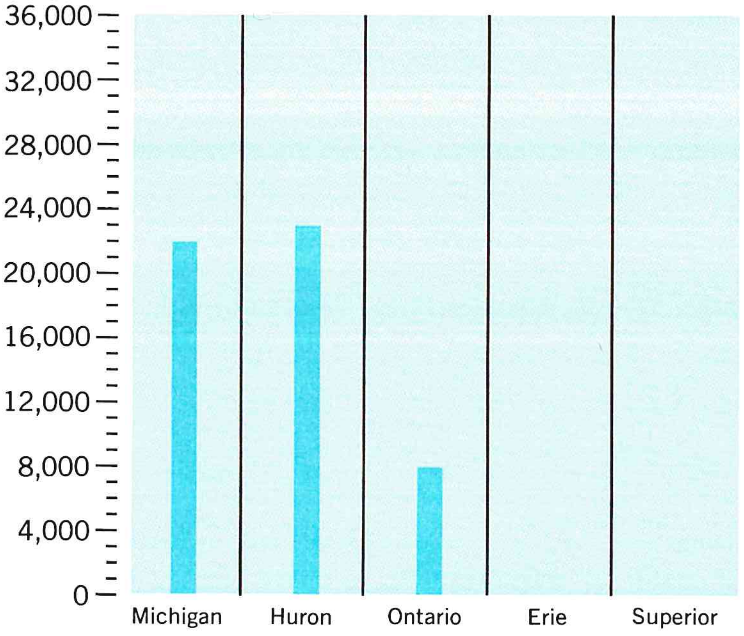
How many tickets did each person sell?

Virginia ______ Irving ______
Joe ______ Arlyn ______
Marcella ______

How many more tickets did Virginia sell than Joe? ______

How many tickets did the five persons sell altogether? ______

Area of the Great Lakes in Square Miles



The area of Lake Ontario is about ________ square miles.

The area of Lake Huron is about ________ square miles.

The area of Lake Michigan is about ________ square miles.

Complete the bar graph from the following information.

Lake Erie: 10,000 square miles
Lake Superior: 32,000 square miles

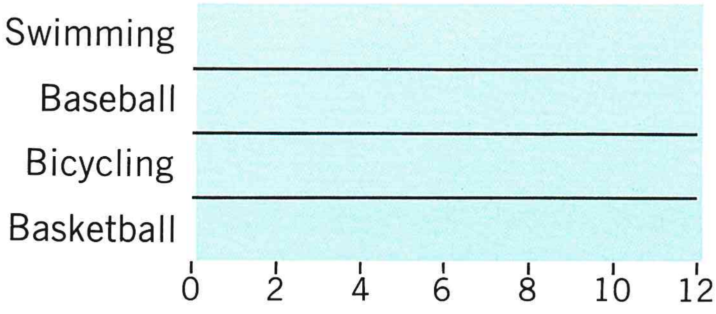
Which lake is largest in area?

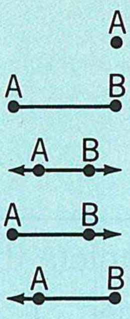
____

Complete the horizontal bar graph to show the following information.

Swimming	12 children
Baseball	8 children
Bicycling	10 children
Basketball	7 children

Favorite Sports in a Class





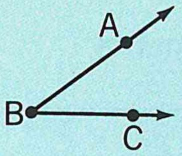
point A

line segment AB or $\overline{AB}$

line AB or $\overleftrightarrow{AB}$

ray AB or $\overrightarrow{AB}$

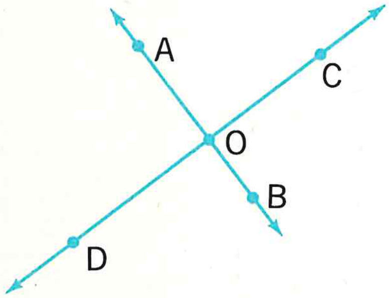
ray BA or $\overrightarrow{BA}$



angle ABC or ∠ABC

angle CBA or ∠CBA

angle B or ∠B



Name 2 lines, ________ ________

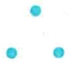
Name 4 rays.

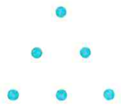
________ ________ ________ ________

Name 4 angles.

________ ________ ________ ________

Each triangle has one more row of dots.
Make the next two triangles.
Count the total number of dots
in each triangle.

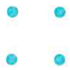


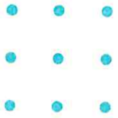


1, 3, ____, ____, ____, . . . dots.

These are called *triangular* numbers.

Make the next two squares.
Count the total number of dots
in each square.



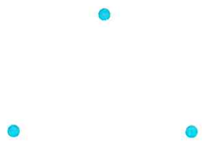
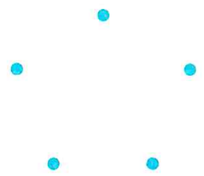


1, 4, ____, ____, ____, . . . dots.

These are called *square* numbers.

Draw as many straight line segments as you can through this one point.

How many straight line segments can you draw? ____________

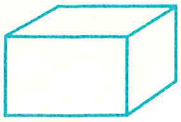
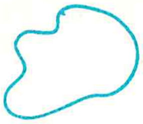
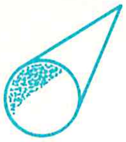
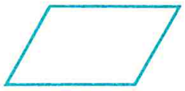
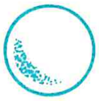
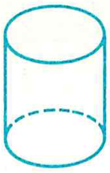
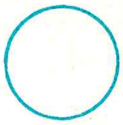
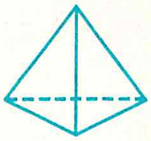
<table>
<tr><td colspan="2" rowspan="2">Draw as many straight line segments as you can through the points below.</td><td colspan="2">Complete the chart.</td></tr>
<tr><td>Number of Points</td><td>Number of Segments</td></tr>
<tr><td> </td><td></td><td rowspan="2">2
3
4
5
6</td><td rowspan="2"></td></tr>
<tr><td> </td><td></td></tr>
</table>

What kind of numbers are in the last column? ____________

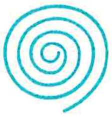
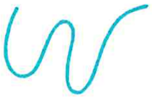
Draw line segments between points on the same line.	Number of Points	Complete the chart. Name of Segment	Number of Segments
A• •B	2		1
A• •B •C	3		3
A• •B •C •D	4		
A• •B •C •D •E	5		
A• •B •C •D •E •F	6		

What kind of numbers are in the last column? ____________

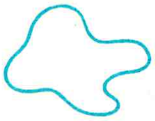
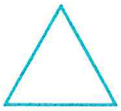
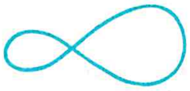
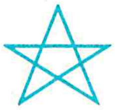
Mark an X on all the visible plane surfaces.

Draw several more open curves.

Draw several more closed curves. Mark an X on all figures which are simple closed curves (those which do not cross themselves).

Polygon—a simple closed figure made up of line segments only.

Draw the following polygons.

Triangle—3 sides

Quadrilateral—4 sides

Pentagon—5 sides

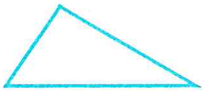
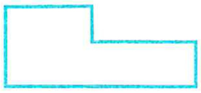
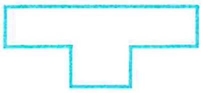
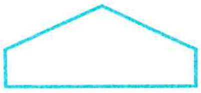
Hexagon—6 sides

Octagon—8 sides

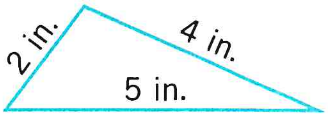
Equilateral quadrilateral

Perimeter—the distance around a closed figure.

With your pencil, trace the perimeter of each of the following figures.

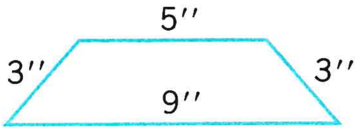





To find the perimeter of any polygon, add the lengths of the sides.



$P = 2 + 4 + 5$

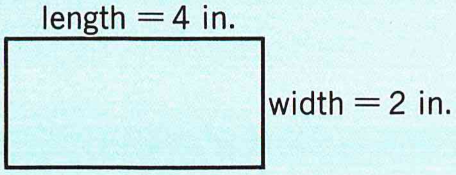
P = _____ in.



P =

P = _____″

Perimeter of a rectangle



$l + w + l + w = P$ $\quad 4 + 2 + 4 + 2 = 12$ in.

or

$l + l + w + w = P$ $\quad 4 + 4 + 2 + 2 = 12$ in.

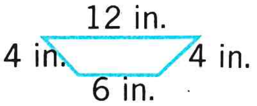
or

$2l + 2w = P$ $\quad (2 \times 4) + (2 \times 2) = 12$ in.

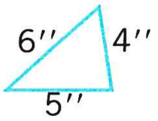
or

$2(l + w) = P$ $\quad 2 \times (4 + 2) = 12$ in.

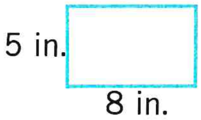
Find the perimeter of each of the following figures.



P = _____ in.

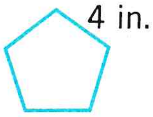


P = _____″



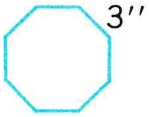
P = _____ in.

Equilateral pentagon



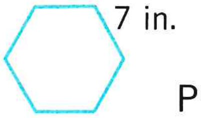
P = _____ in.

Equilateral octagon



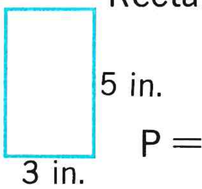
P = _____″

Equilateral hexagon



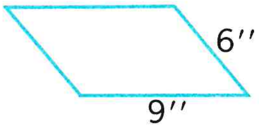
P = _____ in.

Rectangle



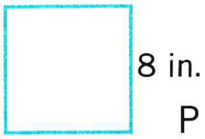
P = _____ in.

Parallelogram



P = _____″

Square



P = _____ in.

How many do you remember?

1 foot (ft.) = _____ inches (in.)
1 yard (yd.) = _____ feet
1 yard = _____ inches
1 pound (lb.) = _____ ounces (oz.)

1 hour (hr.) = _____ minutes (min.)
1 minute = _____ seconds (sec.)
1 quart (qt.) = _____ pints (pt.)
1 gallon (gal.) = _____ quarts
1 gallon = _____ pints

Add.

8 ft. 3 in.
9 ft. 6 in.

2 lb. 4 oz.
1 lb. 5 oz.

4 hr. 35 min.
2 hr. 13 min.

13 ft. 5 in.
21 ft. 3 in.

3 hr. 46 min.
9 hr. 13 min.

5 ft. 7 in.
4 ft. 4 in.

3 lb. 9 oz.
6 lb. 4 oz.

1 gal. 2 qt.
3 gal. 1 qt.

Complete.

29 in. = _____ ft. _____ in.
84 min. = _____ hr. _____ min.
8 ft. = _____ yd. _____ ft.

7 pt. = _____ qt. _____ pt.
18 in. = _____ ft. _____ in.
21 oz. = _____ lb. _____ oz.

Find the totals.

4 ft. 9 in.
2 ft. 6 in.
_____ ft. _____ in. = _____ ft. 3 in.

5 lb. 9 oz.
2 lb. 10 oz.
_____ lb. _____ oz. = _____ lb. _____ oz.

7 hr. 42 min.
4 hr. 37 min.

4 yd. 2 ft.
6 yd. 2 ft.

Subtract.

7 ft. 6 in.
3 ft. 2 in.

4 hr. 56 min.
1 hr. 52 min.

5 lb. 13 oz.
4 lb. 8 oz.

3 qt. 1 pt.
2 qt. 1 pt.

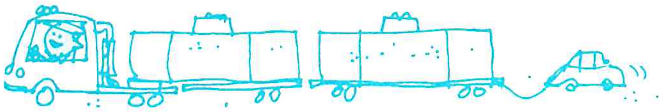
9 yd. 2 ft. 7 in.
6 yd. 1 ft. 3 in.

5 gal. 2 qt. 1 pt.
4 gal. 1 qt.

Try this.

6 ft. 3 in.
−2 ft. 7 in.

Testing



Add.

$$\begin{array}{r} 746 \\ +132 \\ \hline \end{array} \qquad \begin{array}{r} 269 \\ +418 \\ \hline \end{array} \qquad \begin{array}{r} 5063 \\ +2159 \\ \hline \end{array} \qquad \begin{array}{r} 340 \\ 286 \\ +705 \\ \hline \end{array} \qquad \begin{array}{r} 154 \\ 39 \\ 460 \\ +276 \\ \hline \end{array}$$

Find the sum of 46, 21, 37 and 50. _____

Subtract.

$$\begin{array}{r} 538 \\ -117 \\ \hline \end{array} \qquad \begin{array}{r} 426 \\ -208 \\ \hline \end{array} \qquad \begin{array}{r} 904 \\ -367 \\ \hline \end{array} \qquad \begin{array}{r} 2538 \\ -739 \\ \hline \end{array} \qquad \begin{array}{r} 1005 \\ -357 \\ \hline \end{array}$$

Find the difference between 618 and 354. _____

Multiply.

$$\begin{array}{r} 34 \\ \times 41 \\ \hline \end{array} \qquad \begin{array}{r} 73 \\ \times 23 \\ \hline \end{array} \qquad \begin{array}{r} 58 \\ \times 63 \\ \hline \end{array} \qquad \begin{array}{r} 209 \\ \times 92 \\ \hline \end{array}$$

Divide.

$$5\overline{)637} \qquad 6\overline{)834} \qquad 7\overline{)917} \qquad 9\overline{)3609}$$

$$8\overline{)4768} \qquad 6\overline{)3882} \qquad 9\overline{)2277} \qquad 7\overline{)5523}$$

Complete.

$\frac{1}{2} = \frac{\quad}{6} = \frac{5}{\quad}$ $\qquad$ $\frac{3}{4} = \frac{\quad}{8} = \frac{9}{\quad}$ $\qquad$ $\frac{2}{3} = \frac{\quad}{6} = \frac{8}{\quad}$

Rename as decimals.

$\frac{3}{10} = \underline{\qquad}$ $\qquad$ $\frac{65}{100} = \underline{\qquad}$ $\qquad$ $\frac{1}{2} = \underline{\qquad}$ $\qquad$ $\frac{7}{100} = \underline{\qquad}$

Add. $\frac{3}{4} + \frac{1}{2} + \frac{5}{8} = \underline{\qquad}$

Find the total.

$3\frac{2}{5} + 4\frac{1}{2} + 1\frac{3}{10} = \underline{\qquad}$

Subtract $2\frac{1}{3}$ from $7\frac{5}{12}$. $\underline{\qquad}$

Find the difference

between $6\frac{1}{4}$ and $3\frac{5}{8}$. $\underline{\qquad}$

Multiply. $\frac{7}{8} \times \frac{1}{4} = \underline{\qquad}$

Find the product of

$\frac{3}{8}$ and $\frac{2}{3}$. $\underline{\qquad}$

Divide $\frac{4}{5}$ by $\frac{1}{5}$. $\underline{\qquad}$

$\begin{array}{r} 4.3 \\ .9 \\ 2.0 \\ +\,3.7 \\ \hline \end{array}$ $\qquad$ $\begin{array}{r} 17.6 \\ -\,2.8 \\ \hline \end{array}$ $\qquad$ $\begin{array}{r} 2.3 \\ \times 8 \\ \hline \end{array}$ $\qquad$ $6\overline{)89.4}$

Ring those which have the same value.

$\frac{1}{2}$ $\qquad$ .05 $\qquad$ .2 $\qquad$ .5 $\qquad$ $\frac{2}{1}$ $\qquad$ .50 $\qquad$ .02 $\qquad$ $\frac{5}{10}$

1		2	▨	3		4
	▨	5			▨	
6	7		▨	8	9	
▨		▨	▨	▨		▨
10		11	▨	12		13
	▨	14			▨	
15			▨	16		

Across
1. $200 + 115$
3. $84 + 48$
5. $148 + 379$
6. $417 + 418$
8. 21×23
10. $672 - 177$
12. $889 \div 7$
14. 8×108
15. $1346 - 516$
16. $\frac{1}{4} \times 816$

Down
1. $699 - 301$
2. 5×111
3. 29×6
4. $33 + 84 + 146$
7. 9×41
9. $1000 - 138$
10. $184 + 244$
11. $763 - 183$
12. $852 \div 6$
13. $3482 - 2748$

Find the code.

$$\begin{array}{r} 24 \\ \times 3B \\ \hline 1A8 \\ B2 \\ \hline CCC \end{array}$$

A = ____ B = ____ C = ____

Fill in.

3	×	4	−	5	=	7
+	▨	×	▨	−	▨	+
6	÷		+	3	=	
−	▨	×	▨	+	▨	−
7	×	2	−		=	
=	▨	=	▨	=	▨	=
2	×		−		=	8

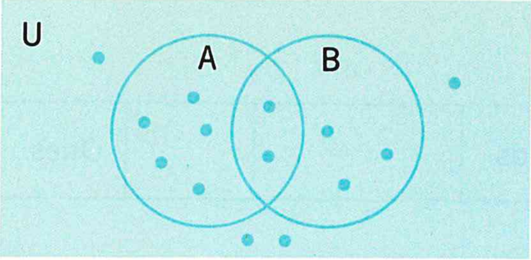
Magic Square

8		6
4		2

Write the numerals 1-9
in the 9 small squares so that their horizontal, vertical,
and diagonal sums will all be the same.

Fill in the chart.

	Sum	7	12		15		17	18
or	Addends	4	5	6	8			
	Factors	3	7	9		4		
	Product	12	35			36	70	81

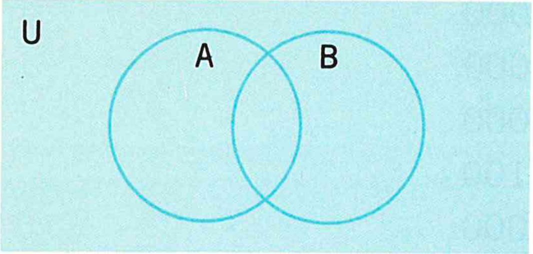


How many dots are there in

A ____ A ∩ B ____

B ____ U ____

A ∪ B ____

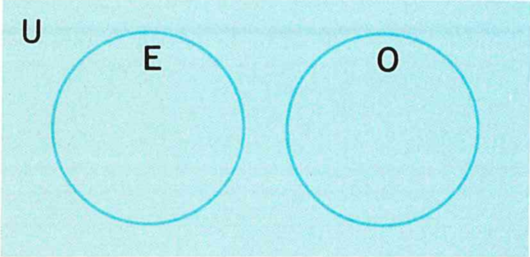


Fill in the Venn diagram
with the information below.

A = {1, 2, 3, 4}

B = {3, 4, 5, 6, 7}

U = {1, 2, 3, . . ., 9}



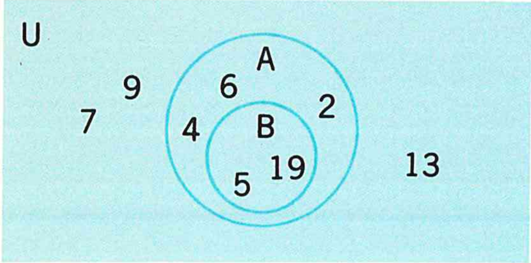
Fill in the Venn diagram.

E = {2, 4, 6, 8, 10}

O = {1, 3, 5, 7, 9}

U = {1, 2, 3, . . ., 10}

E and O are disjoint sets.



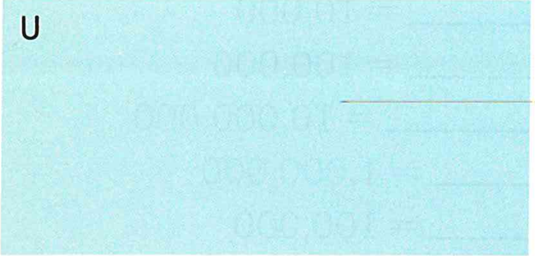
Complete the sets.

U = ____

A = ____

B = ____

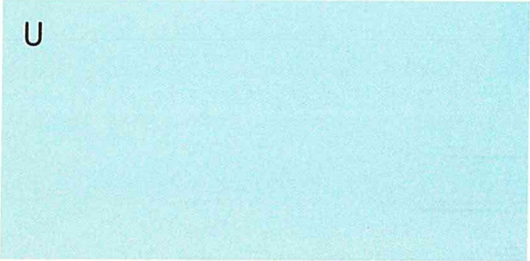
B is a subset of A.



Complete the Venn diagram.

T = {3, 6, 9, 12, 15, 18, 21, 24}

F = {4, 8, 12, 16, 20, 24}



Complete the Venn diagram.

A = {2, 4, 6, 8, 10, 12, 14, 16, 18, 20}

B = {4, 8, 12, 16, 20}

Complete.

	Millions		Ten thousands	Thousands			Ones

Match the words to the correct numeral.

one million	10,000
one hundred thousand	1,000,000
one hundred	1000
ten thousand	100
one thousand	100,000
ten million	10,000,000

In the numeral 7,681,243

The _____ is in the ones place.
The _____ is in the hundreds place.
The _____ is in the ten-thousands place.
The _____ is in the hundred-thousands place.
The _____ is in the thousands place.
The _____ is in the tens place.
The _____ is in the millions place.

Fill in the blanks.

10,000 = 10 × __________
1,000,000 = 100 × __________
100,000 = 10,000 × __________
1000 = 10 × __________
100,000 = 1000 × __________

100 × __________ = 10,000
100 × __________ = 100,000
1000 × __________ = 10,000,000
10 × __________ = 1,000,000
10 × __________ = 100,000

$$10{,}000 = 10 \times 10 \times 10 \times 10 = 10^4$$

100 = 10 × 10 = _____
1000 = __________ = _____
10,000 = __________ = _____

100,000 = _____
1,000,000 = _____
10,000,000 = _____

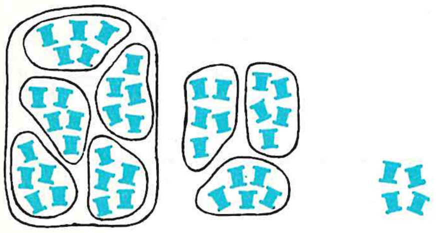
Number word	Thousands	Hundreds		Ones
Numeral		100	10	1
Repeated factor	$10 \times 10 \times 10$		10	1
Exponential form		10^2	10	1

Write each in expanded notation and in exponential form.

$$1492 = 1000 + 400 + 90 + 2$$
$$= (\underline{\quad\quad} \times 10^3) + (\underline{\quad\quad} \times 10^2) + (\underline{\quad\quad} \times 10) + 2$$

$$3178 = \underline{\quad\quad} + \underline{\quad\quad} + \underline{\quad\quad} + \underline{\quad\quad}$$
$$= \underline{\quad\quad} + \underline{\quad\quad} + \underline{\quad\quad} + \underline{\quad\quad}$$

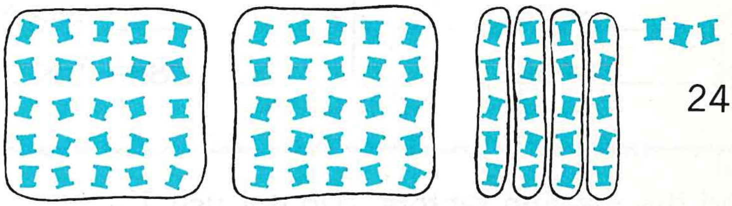
Base five



134_{five}

$(1 \times 25) + (3 \times 5) + (4 \times 1)$

$25 + 15 + 4 = 44$



243_{five}

$(2 \times 25) + (4 \times 5) + (3 \times 1)$

$50 + 20 + 3 = 73$

Number word	One hundred twenty-fives	Twenty-fives	Fives	Ones
Numeral	125		5	1
Repeated factor	$5 \times 5 \times 5$	5×5		1
Exponential form		5^2	5	1

Write each in expanded notation and as a decimal numeral.

$$4132_{\text{five}} = (\underline{\quad\quad} \times 125) + (\underline{\quad\quad} \times 25) + (\underline{\quad\quad} \times 5) + (\underline{\quad\quad} \times 1)$$
$$= 500 + 25 + 15 + 2$$
$$= \underline{\quad\quad}$$

$$314_{\text{five}} = \underline{\quad\quad} + \underline{\quad\quad} + \underline{\quad\quad}$$
$$= \underline{\quad\quad} + \underline{\quad\quad} + \underline{\quad\quad}$$
$$= \underline{\quad\quad}$$

$$402_{\text{five}} = \underline{\quad\quad} + \underline{\quad\quad} + \underline{\quad\quad}$$
$$= \underline{\quad\quad} + \underline{\quad\quad}$$
$$= \underline{\quad\quad}$$

Base 5

Complete each pattern.

2, 4, 6, 8, _____, _____, _____, _____
1, 3, 5, 7, _____, _____, _____, _____
0, 3, 6, _____, _____, 15, _____, _____, 24
1, 2, 4, 8, _____, _____, _____, 128, _____
1, 1, 2, 3, 5, 8, _____, _____, 34
0, 1, 3, 6, 10, _____, _____, 28, _____
1, 4, 9, 16, _____, _____, _____, _____, 81

Fill in each missing factor or product.

7 × _____ = 21
_____ × 8 = 32
6 × 9 = _____
3 × _____ = 24
7 × _____ = 63

36 = 6 × _____
35 = _____ × 5
36 = 4 × _____
_____ = 8 × 6
28 = 7 × _____

10 × _____ = 70
8 × 7 = _____
9 × _____ = 27
_____ × 7 = 42
8 × _____ = 64

Find the missing factors. (Do not use 1.)

_____ × _____ = 35
_____ × _____ = 10
_____ × _____ = 33
_____ × _____ = 6

_____ × _____ = 55
_____ × _____ = 14
_____ × _____ = 26
_____ × _____ = 21

_____ × _____ = 15
_____ × _____ = 39
_____ × _____ = 65
_____ × _____ = 22

Find all the factors for each number.

144
1 x 144
2 x 72
3 x 48
4 x 36
6 x 24
8 x 18
9 x 16
12 x 12

60

48

64

72

84

Double the first factor. Compare the products.

3 × 4 = ____
6 × 4 = ____
12 × 4 = ____

2 × 10 = ____
4 × 10 = ____
____ × 10 = ____

2 × 3 = ____
____ × 3 = ____
____ × 3 = ____

3 × 6 = ____
____ × 6 = ____
____ × 6 = ____

Double the second factor. Compare the products.

3 × 4 = ____
3 × 8 = ____
3 × 16 = ____

2 × 10 = ____
2 × 20 = ____
2 × ____ = ____

2 × 3 = ____
2 × ____ = ____
2 × ____ = ____

3 × 6 = ____
3 × ____ = ____
3 × ____ = ____

If one factor is doubled, the product is ____________.
If one factor is tripled, the product is ____________.
If one factor is multiplied by 4, the product is ____________.

Double both factors.

3 × 4 = ____
6 × 8 = ____
12 × 16 = ____

2 × 10 = ____
4 × 20 = ____
____ × ____ = ____

2 × 3 = ____
____ × ____ = ____
____ × ____ = ____

3 × 6 = ____
____ × ____ = ____
____ × ____ = ____

If both factors are doubled, the product is ____________.
If both factors are tripled, the product is ____________.

Divide one factor by 2.

8 × 6 = ____
4 × 6 = ____
2 × 6 = ____

12 × 7 = ____
6 × 7 = ____
____ × 7 = ____

16 × 10 = ____
____ × 10 = ____
____ × 10 = ____

20 × 5 = ____
____ × 5 = ____
____ × 5 = ____

If one factor is divided by 2, the product is ____________.
If one factor is divided by 4, the product is ____________.

Double one factor and divide the other factor by 2.

8 × 5 = ____
4 × 10 = ____
2 × 20 = ____

12 × 4 = ____
6 × 8 = ____
____ × ____ = ____

2 × 16 = ____
4 × 8 = ____
____ × ____ = ____

5 × 100 = ____
10 × 50 = ____
____ × ____ = ____

If one factor is doubled and the other factor is divided by 2, the product ____________.

Find the products.

1 × 8 = ______
10 × 8 = ______
100 × 8 = ______

9 × 3 = ______
9 × 30 = ______
9 × 300 = ______

4 × 40 = ______
40 × 40 = ______
400 × 40 = ______

10 × 100 = ______
20 × 100 = ______
40 × 100 = ______

6 × 3 = ______
60 × 3 = ______
600 × 3 = ______

6 × 2 = ______
6 × 20 = ______
6 × 200 = ______

50 × 7 = ______
50 × 70 = ______
50 × 700 = ______

30 × 100 = ______
60 × 100 = ______
90 × 100 = ______

5 × 4 = ______
50 × 4 = ______
500 × 4 = ______

9 × 7 = ______
9 × 70 = ______
9 × 700 = ______

30 × 8 = ______
30 × 80 = ______
30 × 800 = ______

60 × 100 = ______
70 × 100 = ______
80 × 100 = ______

4 × 7 = ______
40 × 7 = ______
400 × 7 = ______

5 × 8 = ______
5 × 80 = ______
5 × 800 = ______

60 × 9 = ______
60 × 90 = ______
60 × 900 = ______

100 × 100 = ______
200 × 100 = ______
300 × 100 = ______

10 × 827 = ________
100 × 634 = ________
10 × 192 = ________
100 × 451 = ________

100 × 143 = ________
200 × 143 = ________
300 × 143 = ________

100 × 735 = ________
10 × 918 = ________
10 × 320 = ________
100 × 547 = ________

100 × 214 = ________
200 × 214 = ________
400 × 214 = ________

100 × 614 = ________
10 × 827 = ________
100 × 130 = ________
100 × 952 = ________

100 × 607 = ________
200 × 607 = ________
400 × 607 = ________

200 × 300 = (2 × 100) × (3 × 100) = (2 × 3) × (100 × 100) = 60000
400 × 200 = ____________________ = ____________________ = ______
300 × 600 = ____________________ = ____________________ = ______
600 × 500 = ____________________ = ____________________ = ______

Multiply.

$\begin{array}{r}634\\ \times 100\\ \hline\end{array}$ $\begin{array}{r}192\\ \times 100\\ \hline\end{array}$ $\begin{array}{r}451\\ \times 100\\ \hline\end{array}$ $\begin{array}{r}326\\ \times 100\\ \hline\end{array}$

$\begin{array}{r}300\\ \times 200\\ \hline\end{array}$ $\begin{array}{r}600\\ \times 400\\ \hline\end{array}$ $\begin{array}{r}136\\ \times 200\\ \hline\end{array}$ $\begin{array}{r}547\\ \times 300\\ \hline\end{array}$

Multiply.

$$\begin{array}{r} 182 \\ \times 4 \\ \hline \end{array} \qquad \begin{array}{r} 182 \\ \times 10 \\ \hline \end{array} \qquad \begin{array}{r} 182 \\ \times 300 \\ \hline \end{array} \qquad \begin{array}{r} 182 \\ \times 314 \\ \hline \end{array}$$

Estimate. Then find the products.

764 × 231

Estimate. 800 × 200 = ________

$$\begin{array}{r} 231 \\ \times 764 \\ \hline \end{array}$$

691 × 410

Estimate. ________________

$$\begin{array}{r} 410 \\ \times 691 \\ \hline \end{array}$$

579 × 280

Estimate. ________________

$$\begin{array}{r} 280 \\ \times 579 \\ \hline \end{array}$$

523 × 312

Estimate. 500 × 300 = ________

$$\begin{array}{r} 312 \\ \times 523 \\ \hline \end{array}$$

485 × 174

Estimate. ________________

$$\begin{array}{r} 174 \\ \times 485 \\ \hline \end{array}$$

709 × 437

Estimate. ________________

$$\begin{array}{r} 437 \\ \times 709 \\ \hline \end{array}$$

Fill in.

2 × 63 = ____
20 × 63 = ____

4 × 71 = ____
40 × 71 = ____

6 × 58 = ____
60 × 58 = ____

7 × 39 = ____
70 × 39 = ____

5 × 47 = ____
50 × 47 = ____

9 × 32 = ____
90 × 32 = ____

3 × 85 = ____
30 × 85 = ____

8 × 56 = ____
80 × 56 = ____

80 × ☐ = 2400
☐ × 4 = 200
30 × ☐ = 18,000
☐ × 40 = 1600

60 × ☐ = 420
☐ × 400 = 36,000
20 × ☐ = 2000
☐ × 80 = 5600

50 × ☐ = 4000
☐ × 4 = 320
30 × ☐ = 2700
☐ × 30 = 1800

```
                54 quotient
            32)1730 |
               1600 | 50
               ----
                130 |
                128 |  4
               ----------
remainder         2 | 54
```

```
Check.    54
        × 32  quotient
        ----
         108
        1620
        ----
        1728
        + 2   remainder
        ----
        1730
```

Divide and check.

28)972

47)2929

17)825

71)3723

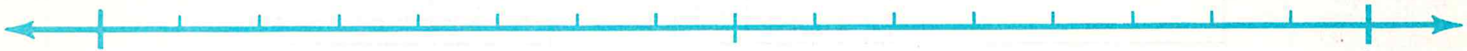
Ring the names for whole numbers.

$\frac{8}{9}$ $\frac{4}{2}$ $\frac{3}{3}$ $\frac{16}{7}$ $\frac{4}{1}$ $\frac{1}{10}$ $\frac{0}{6}$ $\frac{15}{3}$

Rewrite the fractions in order with the smallest value first.

$\frac{1}{4}$ $\frac{1}{2}$ $\frac{1}{5}$ $\frac{1}{3}$ $\frac{1}{5}$ $\frac{1}{3}$	$\frac{2}{3}$ $\frac{1}{2}$ $\frac{3}{4}$ $\frac{5}{6}$	$\frac{3}{4}$ $\frac{1}{2}$ $\frac{5}{8}$ $\frac{1}{16}$
$\frac{7}{8}$ $\frac{3}{8}$ $\frac{1}{8}$ $\frac{4}{8}$	$\frac{2}{3}$ $\frac{3}{2}$ $\frac{5}{6}$ $\frac{6}{5}$	$\frac{3}{5}$ $\frac{7}{10}$ $\frac{1}{2}$ $\frac{5}{3}$
$\frac{2}{3}$ $\frac{4}{5}$ $\frac{3}{4}$ $\frac{5}{6}$	$\frac{8}{1}$ $\frac{3}{3}$ $\frac{0}{2}$ $\frac{1}{16}$	$\frac{1}{3}$ $\frac{3}{9}$ $\frac{2}{6}$ $\frac{4}{12}$

Fill in the blanks.



$\frac{0}{2}$ $\frac{1}{2}$ $\frac{2}{2}$

$\frac{0}{4}$ $\frac{1}{4}$ ___ $\frac{3}{4}$ ___

$\frac{0}{8}$ $\frac{1}{8}$ $\frac{2}{8}$ ___ $\frac{4}{8}$ ___ ___ $\frac{7}{8}$ $\frac{8}{8}$

$\frac{0}{16}$ $\frac{1}{16}$ $\frac{2}{16}$ $\frac{3}{16}$ ___ $\frac{5}{16}$ $\frac{6}{16}$ ___ ___ $\frac{9}{16}$ ___ $\frac{11}{16}$ ___ $\frac{13}{16}$ $\frac{14}{16}$ ___ ___

Tell where these points are.

$\frac{1}{32}$ is between $\frac{0}{16}$ and $\frac{1}{16}$

$\frac{4}{32}$ is the same as $\frac{\quad}{8}$

$\frac{5}{32}$ is between $\frac{\quad}{16}$ and $\frac{\quad}{16}$

$\frac{9}{32}$ is between ___ and ___

$\frac{15}{32}$ is between ___ and ___

$\frac{16}{32}$ is the same as ___

Rename. $\frac{1}{4} = \frac{\quad}{8} = \frac{\quad}{16}$ | $\frac{3}{8} = \frac{\quad}{16} = \frac{\quad}{32}$ | $\frac{1}{2} = \frac{\quad}{4} = \frac{\quad}{16} = \frac{\quad}{32}$

Rename.

$\frac{1}{10} = \frac{}{20} = \frac{}{30} = \frac{}{40} = \frac{5}{} = \frac{6}{} = \frac{}{70} = \frac{8}{} = \frac{}{90} = \frac{}{100}$

$\frac{1}{2}$ of $\frac{1}{10}$ = ____

$\frac{1}{3}$ of $\frac{1}{10}$ = ____

$\frac{1}{4}$ of $\frac{1}{10}$ = ____

$\frac{1}{2}$ of $\frac{1}{30}$ = ____

$\frac{1}{2}$ of $\frac{1}{20}$ = ____

$\frac{1}{6}$ of ____ = $\frac{1}{60}$

$\frac{1}{8}$ of ____ = $\frac{1}{80}$

____ of $\frac{1}{10}$ = $\frac{1}{50}$

$\frac{1}{3}$ of $\frac{1}{20}$ = ____

____ of $\frac{1}{20}$ = $\frac{1}{80}$

$\frac{1}{3}$ of ____ = $\frac{1}{90}$

$\frac{1}{7}$ of $\frac{1}{10}$ = ____

Fill in the simplest name.

$\frac{20}{20}$ = ____

$\frac{6}{30}$ = ____

$\frac{10}{30}$ = ____

$\frac{20}{40}$ = ____

$\frac{2}{20}$ = ____

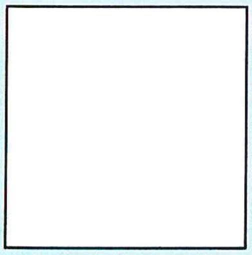
$\frac{10}{40}$ = ____

$\frac{8}{20}$ = ____

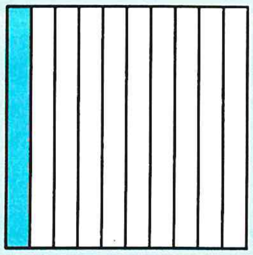
$\frac{60}{80}$ = ____

$\frac{40}{60}$ = ____

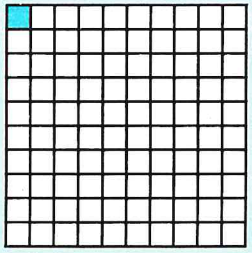
$\frac{24}{40}$ = ____



unit square



$\frac{1}{10}$ of 1 or .1

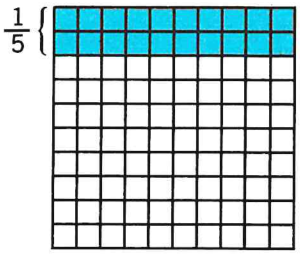


$\frac{1}{100}$ of 1 or .01

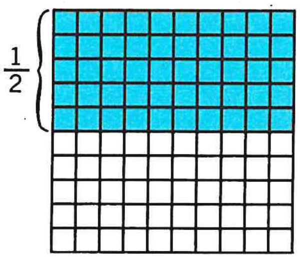
Complete the chart.

	tens	ones		hundredths
10 × 10		1	$\frac{1}{10}$	$\frac{1}{10}$ × ____

Complete.

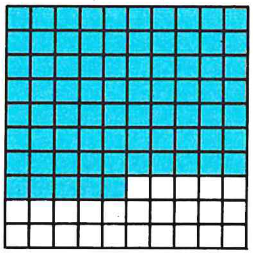


$\frac{1}{5} = \frac{}{10} = \frac{}{100}$ = .____ = .____



$\frac{1}{2} = \frac{}{10} = \frac{}{100}$ = .____ = .____

Shade in $\frac{3}{4}$.



$\frac{3}{4} = \frac{}{100}$ = .____

Give the value of each coin, then complete.

_____

$\frac{1}{100}$ of a dollar

$.01

_____

$\frac{1}{20}$ of a dollar

$.05

_____

_____ of a dollar

$.10

_____

_____ of a dollar

_____

_____

_____ of a dollar

_____

Complete.

$\frac{1}{100} =$ .01

$\frac{1}{20} = \frac{\quad}{100} = .05$

$\frac{7}{100} =$ _____

$\frac{1}{10} = \frac{\quad}{100} = .1$

$= .13$

$\frac{3}{20} = \frac{\quad}{100} =$ _____

$\frac{1}{5} = \frac{\quad}{100} =$ _____

$\frac{1}{4} = \frac{\quad}{100} =$ _____

$\frac{3}{\quad} = \frac{\quad}{100} = .3$

$\frac{33}{100} =$ _____

$\frac{7}{\quad} = \frac{\quad}{100} = .35$

$\frac{2}{5} = \frac{\quad}{100} =$ _____

$\frac{\quad}{20} = \frac{45}{100} =$ _____

$\frac{12}{25} = \frac{\quad}{100} =$ _____

$\frac{1}{2} = \frac{\quad}{100} =$ _____

$\frac{\quad}{5} = \frac{60}{100} =$ _____

$\frac{7}{\quad} = \frac{\quad}{100} = .7$

$\frac{3}{\quad} = \frac{\quad}{100} = .75$

$\frac{\quad}{5} = \frac{80}{100} =$ _____

$\frac{\quad}{10} = \frac{90}{\quad} = .9$

$1 = \frac{\quad}{100} = 1.0$

Rename each as a decimal.

$1\frac{1}{10} =$ _____

$4\frac{7}{10} =$ _____

$8\frac{37}{100} =$ _____

$3\frac{2}{5} = 3\frac{4}{10} =$ _____

$5\frac{3}{20} = 5\frac{\quad}{100} =$ _____

$2\frac{1}{4} = 2\frac{\quad}{100} =$ _____

$2\frac{61}{100} =$ _____

_____ $= 7.9$

_____ $= 3.27$

Write in expanded form.

27.19 = _____ tens + _____ ones + _____ tenth + _____ hundredths

$= (\_\_\_\_ \times 10) + (\_\_\_\_ \times 1) + (\_\_\_\_ \times \frac{1}{10}) + (\_\_\_\_ \times \frac{1}{100})$

8.25 = _______ + _______ + _____________

= _______ + _______ + _____________

Complete the patterns.

.25, .30, .35, ____, ____, .50, ____

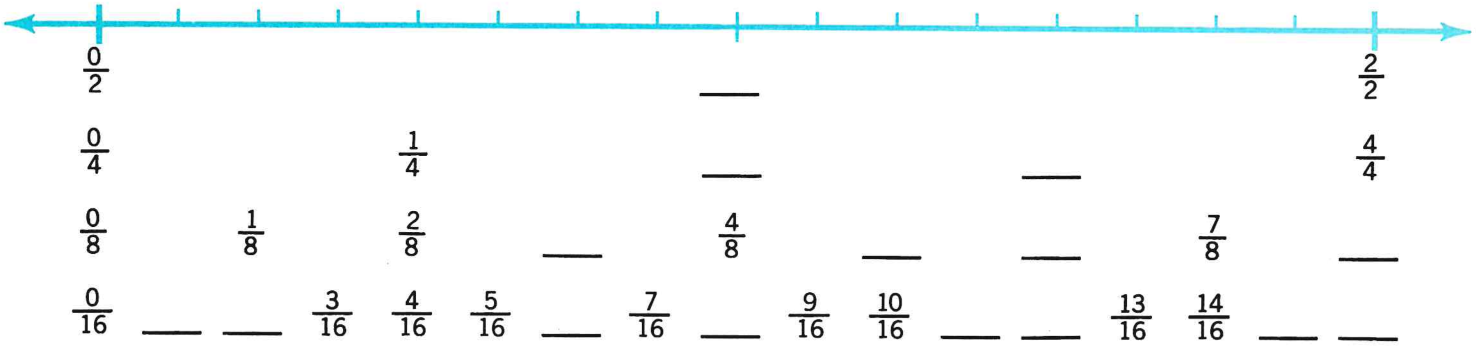
2.18, 2.22, ____, ____, 2.34, ____, ____

.81, .87, .93, ____, ____, 1.11, ____

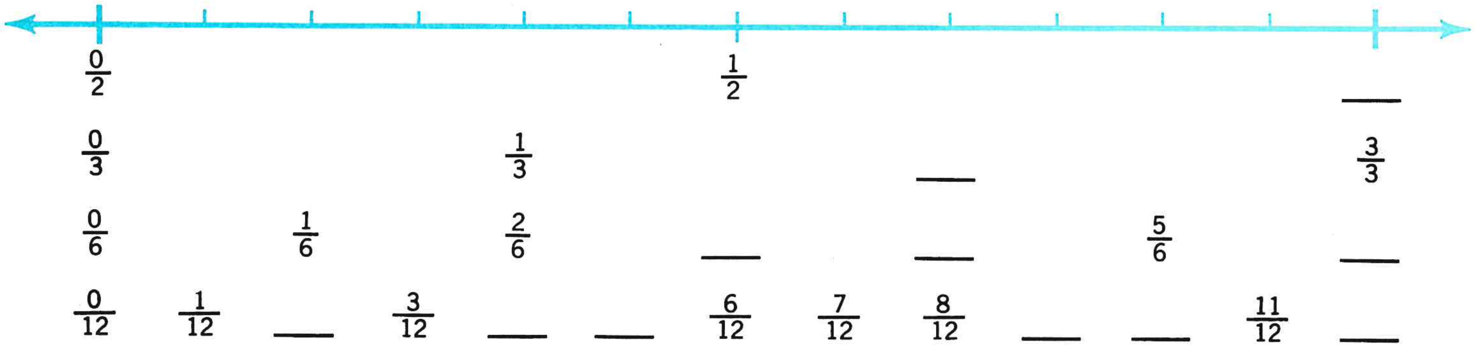
7.40, 7.30, 7.20, ____, ____, 6.90, ____

1.73, 1.62, 1.51, ____, ____, ____, 1.07

Complete.


$\frac{0}{2}$ ____ $\frac{2}{2}$
$\frac{0}{4}$ $\frac{1}{4}$ ____ ____ $\frac{4}{4}$
$\frac{0}{8}$ $\frac{1}{8}$ $\frac{2}{8}$ ____ $\frac{4}{8}$ ____ ____ $\frac{7}{8}$ ____
$\frac{0}{16}$ ____ ____ $\frac{3}{16}$ $\frac{4}{16}$ $\frac{5}{16}$ ____ $\frac{7}{16}$ ____ $\frac{9}{16}$ $\frac{10}{16}$ ____ ____ $\frac{13}{16}$ $\frac{14}{16}$ ____ ____

Fill in.


$\frac{0}{2}$ $\frac{1}{2}$ ____
$\frac{0}{3}$ $\frac{1}{3}$ ____ $\frac{3}{3}$
$\frac{0}{6}$ $\frac{1}{6}$ $\frac{2}{6}$ ____ ____ $\frac{5}{6}$ ____
$\frac{0}{12}$ $\frac{1}{12}$ ____ $\frac{3}{12}$ ____ ____ $\frac{6}{12}$ $\frac{7}{12}$ $\frac{8}{12}$ ____ ____ $\frac{11}{12}$ ____

Find each fraction or decimal halfway between.

$\frac{7}{10}$, ____, $\frac{9}{10}$

$\frac{1}{4}$, ____, $\frac{3}{4}$

0, ____, $\frac{1}{8}$

$\frac{1}{3}$, ____, 1

$\frac{5}{8}$, ____, $\frac{3}{4}$

.5, ____, 1.5

3.1, ____, 5.1

$\frac{1}{2}$, ____, $\frac{3}{4}$

$\frac{1}{2}$, ____, $\frac{2}{3}$

$\frac{5}{6}$, ____, 1

$\frac{1}{6}$, ____, $\frac{1}{3}$

.1, ____, .5

3.0, ____, 4.0

$\frac{7}{8}$, ____, 1

$\frac{3}{10}$, ____, $\frac{1}{2}$

$\frac{7}{8}$, ____, $\frac{15}{16}$

Complete.

$\frac{2}{} = 1$ $\frac{}{5} = 1$ $\underline{\qquad} = \frac{4}{4}$ $1 = \frac{}{9}$ $\frac{}{12} = 1$

$3 \times 1 = \boxed{}$ $1 \times 7 = \boxed{}$ $\frac{3}{4} \times 1 = \boxed{}$ $\frac{5}{6} \times 1 = \boxed{}$ $1 \times n = \boxed{}$

Find the products.

$\frac{1}{5} \times 1 = \underline{\qquad}$

$\frac{1}{5} \times \frac{2}{2} = \underline{\qquad}$

$\frac{1}{5} \times \frac{4}{4} = \underline{\qquad}$

$\frac{1}{5} \times \frac{5}{5} = \underline{\qquad}$

$\frac{3}{4} \times 1 = \underline{\qquad}$

$\frac{3}{4} \times \frac{2}{2} = \underline{\qquad}$

$\frac{3}{4} \times \frac{3}{3} = \underline{\qquad}$

$\frac{3}{4} \times \frac{6}{6} = \underline{\qquad}$

$\frac{7}{10} \times 1 = \underline{\qquad}$

$\frac{7}{10} \times \frac{4}{4} = \underline{\qquad}$

$\frac{7}{10} \times \frac{5}{5} = \underline{\qquad}$

$\frac{7}{10} \times \frac{7}{7} = \underline{\qquad}$

Find the missing factors or products.

$\frac{2}{3} \times \underline{\qquad} = \frac{8}{12}$

$\underline{\qquad} \times \frac{6}{6} = \frac{24}{30}$

$\frac{5}{7} \times \frac{3}{3} = \underline{\qquad}$

$\frac{3}{4} \times \underline{\qquad} = \frac{15}{20}$

$\underline{\qquad} \times \frac{2}{2} = \frac{4}{18}$

$\frac{1}{6} \times \underline{\qquad} = \frac{4}{24}$

$\frac{1}{2} \times \underline{\qquad} = \frac{10}{20}$

$\underline{\qquad} \times \frac{4}{4} = \frac{4}{16}$

$\frac{3}{7} \times \frac{8}{8} = \underline{\qquad}$

$4 \div 1 = \underline{\qquad}$ $8 \div \underline{\qquad} = 8$ $\frac{4}{5} \div 1 = \underline{\qquad}$ $\underline{\qquad} \div 1 = \frac{8}{9}$ $n \div 1 = \underline{\qquad}$

$\frac{8}{12} \div 1 = \underline{\qquad}$

$\frac{8}{12} \div \frac{2}{2} = \underline{\qquad}$

$\frac{8}{12} \div \frac{4}{4} = \underline{\qquad}$

$\frac{10}{20} \div 1 = \underline{\qquad}$

$\frac{10}{20} \div \frac{5}{5} = \underline{\qquad}$

$\frac{10}{20} \div \frac{10}{10} = \underline{\qquad}$

$\frac{18}{24} \div 1 = \underline{\qquad}$

$\frac{18}{24} \div \frac{3}{3} = \underline{\qquad}$

$\frac{18}{24} \div \frac{6}{6} = \underline{\qquad}$

Fill in.

$\frac{6}{8} \div \frac{2}{2} = \underline{\qquad}$

$\frac{9}{12} \div \underline{\qquad} = \frac{3}{4}$

$\frac{5}{30} \div \frac{5}{5} = \underline{\qquad}$

$\frac{12}{18} \div \underline{\qquad} = \frac{2}{3}$

$\underline{\qquad} \div \frac{10}{10} = \frac{4}{5}$

$\frac{10}{14} \div \underline{\qquad} = \frac{5}{7}$

$\frac{15}{30} \div \frac{15}{15} = \underline{\qquad}$

$\frac{12}{48} \div \underline{\qquad} = \frac{1}{4}$

$\underline{\qquad} \div \frac{4}{4} = \frac{5}{6}$

Complete the patterns.

$2\frac{1}{16}$, $2\frac{1}{8}$, $2\frac{3}{16}$, $2\frac{1}{4}$, _____, _____, _____, $2\frac{1}{2}$

$5\frac{5}{12}$, $5\frac{1}{2}$, $5\frac{7}{12}$, $5\frac{2}{3}$, _____, _____, _____, 6

$3\frac{1}{5}$, $3\frac{1}{2}$, $3\frac{4}{5}$, $4\frac{1}{10}$, _____, _____, 5, _____

$7\frac{3}{4}$, $7\frac{5}{8}$, $7\frac{1}{2}$, _____, _____, _____, 7, _____

$4\frac{3}{20}$, $4\frac{1}{10}$, $4\frac{1}{20}$, _____, _____, $3\frac{9}{10}$, _____, $3\frac{4}{5}$

Rename these fractions.

$\frac{1}{2} = \frac{\quad}{18} = \frac{12}{\quad}$

$\frac{3}{8} = \frac{6}{\quad} = \frac{\quad}{24}$

$\frac{1}{4} = \frac{\quad}{12} = \frac{\quad}{20}$

$\frac{5}{7} = \frac{\quad}{14} = \frac{\quad}{28}$

$\frac{1}{2} = \frac{7}{\quad} = \frac{10}{\quad}$

$\frac{1}{6} = \frac{3}{\quad} = \frac{\quad}{24}$

$\frac{\quad}{5} = \frac{8}{10} = \frac{16}{\quad}$

$\frac{5}{8} = \frac{\quad}{16} = \frac{15}{\quad}$

$\frac{5}{\quad} = \frac{15}{18} = \frac{\quad}{24}$

$$4\frac{1}{2} - \frac{3}{4} = 4\frac{2}{4} - \frac{3}{4}$$
$$= 3\frac{6}{4} - \frac{3}{4} = 3\frac{3}{4}$$

$$12\frac{1}{4} - 5\frac{2}{3} = 12\frac{3}{12} - 5\frac{8}{12}$$
$$= 11\frac{15}{12} - 5\frac{8}{12} = 6\frac{7}{12}$$

$2\frac{1}{6} - \frac{1}{3} =$ _________

$=$ _________ $=$ _____

$5\frac{1}{4} - \frac{1}{2} =$ _________

$=$ _________ $=$ _____

$6\frac{1}{6} - \frac{1}{4} =$ _________

$=$ _________ $=$ _____

$4\frac{1}{5} - \frac{1}{2} =$ _________

$=$ _________ $=$ _____

$6\frac{1}{3} - 2\frac{1}{2} =$ _________

$=$ _________ $=$ _____

$7\frac{2}{5} - 3\frac{1}{2} =$ _________

$=$ _________ $=$ _____

$5\frac{1}{4} - 4\frac{1}{3} =$ _________

$=$ _________ $=$ _____

$4\frac{1}{6} - 2\frac{1}{2} =$ _________

$=$ _________ $=$ _____

Find the sums.

$$\begin{array}{r} 24\frac{4}{9} = 24\frac{8}{18} \\ +\,10\frac{13}{18} = 10\frac{13}{18} \\ \hline 34\frac{21}{18} = 35\frac{1}{6} \end{array}$$

$$\begin{array}{r} 6\frac{1}{4} = \\ +\,2\frac{7}{8} = \\ \hline \end{array}$$

$$\begin{array}{r} 13\frac{3}{8} = \\ +\,4\frac{5}{6} = \\ \hline \end{array}$$

Add.

$$\begin{array}{r} 23\frac{4}{9} = 23\frac{16}{36} \\ 8\frac{3}{4} = 8\frac{27}{36} \\ 12\frac{13}{18} = 12\frac{26}{36} \\ \hline 43\frac{69}{36} = 44\frac{11}{12} \end{array}$$

$$\begin{array}{r} 3\frac{1}{4} = \\ 2\frac{1}{2} = \\ 6\frac{5}{8} = \\ \hline \end{array}$$

$$\begin{array}{r} 5\frac{3}{4} = \\ 10\frac{5}{6} = \\ 7\frac{1}{2} = \\ \hline \end{array}$$

$$\begin{array}{r} 7\frac{4}{5} = \\ 8\frac{7}{10} = \\ 2\frac{11}{20} = \\ \hline \end{array}$$

$$\begin{array}{r} 15\frac{7}{8} = \\ 9\frac{2}{3} = \\ 12\frac{5}{6} = \\ \hline \end{array}$$

$$\begin{array}{r} 3\frac{1}{3} = \\ 5\frac{7}{9} = \\ 8\frac{5}{6} = \\ \hline \end{array}$$

Subtract.

$$\begin{array}{r} 8\frac{1}{2} = 8\frac{9}{18} = 7\frac{27}{18} \\ -\,3\frac{7}{9} = 3\frac{14}{18} = 3\frac{14}{18} \\ \hline 4\frac{13}{18} \end{array}$$

$$\begin{array}{r} 15\frac{9}{16} = \\ -\,9\frac{13}{16} = \\ \hline \end{array}$$

$$\begin{array}{r} 23\frac{4}{9} = \quad = \\ -\,12\frac{17}{18} = \quad = \\ \hline \end{array}$$

$$\begin{array}{r} 41\frac{1}{6} = \quad = \\ -\,15\frac{2}{3} = \quad = \\ \hline \end{array}$$

$$\begin{array}{r} 38\frac{1}{2} = \quad = \\ -\,21\frac{4}{7} = \quad = \\ \hline \end{array}$$

$$\begin{array}{r} 54\frac{3}{4} = \quad = \\ -\,19\frac{4}{5} = \quad = \\ \hline \end{array}$$

$$\begin{array}{rcl} 4.72 & = & 4 + .7 + .02 \\ +\,5.51 & = & 5 + .5 + .01 \\ \hline & & 9 + 1.2 + .03 = 10.2 + .03 = 10.23 \end{array} \qquad \begin{array}{r} \overset{1}{4}.72 \\ +\,5.51 \\ \hline 10.23 \end{array}$$

Find the sums.

$$\begin{array}{r} 13.45 \\ 6.22 \\ \hline \end{array} \qquad \begin{array}{r} 32.84 \\ 20.13 \\ \hline \end{array} \qquad \begin{array}{r} 27.07 \\ 32.61 \\ \hline \end{array} \qquad \begin{array}{r} 64.8 \\ 12.07 \\ \hline \end{array}$$

$$\begin{array}{r} 42.38 \\ 16.14 \\ \hline \end{array} \qquad \begin{array}{r} 36.52 \\ 24.28 \\ \hline \end{array} \qquad \begin{array}{r} 17.09 \\ 11.92 \\ \hline \end{array} \qquad \begin{array}{r} 84.9 \\ 27.35 \\ \hline \end{array}$$

$$\begin{array}{r} 15.63 \\ 20.7 \\ 2.34 \\ \hline \end{array} \qquad \begin{array}{r} 52.23 \\ 9.34 \\ 16.72 \\ \hline \end{array} \qquad \begin{array}{r} 13.67 \\ 8.09 \\ 37.6 \\ \hline \end{array} \qquad \begin{array}{r} 25.86 \\ 3.9 \\ 84.05 \\ \hline \end{array}$$

$$\begin{array}{rcccl} 8.43 & = & 8 + .4 + .03 & = & 7 + 1.4 + .03 \\ -\,3.62 & = & 3 + .6 + .02 & = & 3 + .6 + .02 \\ \hline & & & & 4 + .8 + .01 = 4.81 \end{array} \qquad \begin{array}{r} \overset{7}{\cancel{8}}.\overset{1}{4}3 \\ -\,3.62 \\ \hline 4.81 \end{array}$$

Find the differences.

$$\begin{array}{r} 15.69 \\ 11.34 \\ \hline \end{array} \qquad \begin{array}{r} 32.51 \\ 10.41 \\ \hline \end{array} \qquad \begin{array}{r} 74.26 \\ 34.21 \\ \hline \end{array} \qquad \begin{array}{r} 13.83 \\ 8.40 \\ \hline \end{array}$$

$$\begin{array}{r} 46.32 \\ 17.18 \\ \hline \end{array} \qquad \begin{array}{r} 52.16 \\ 20.34 \\ \hline \end{array} \qquad \begin{array}{r} 84.07 \\ 12.89 \\ \hline \end{array} \qquad \begin{array}{r} 17.60 \\ 8.92 \\ \hline \end{array}$$

From 6.42 subtract 2.71. __________

From 58.00 subtract 29.64. __________

$3 \times \frac{11}{18} = \frac{3 \times 11}{18} = \frac{33}{18} = 1\frac{15}{18} = 1\frac{5}{6}$

$\frac{4}{5} \times \frac{7}{8} = \frac{4 \times 7}{5 \times 8} = \frac{28}{40} = \frac{7}{10}$

$4 \times \frac{5}{7} = \frac{}{7} = \underline{\qquad}$

$8 \times \frac{3}{4} = \underline{\qquad} = \underline{\qquad}$

$7 \times \frac{5}{12} = \underline{\qquad} = \underline{\qquad}$

$5 \times \frac{9}{10} = \underline{\qquad} = \underline{\qquad}$

$\frac{5}{6} \times 18 = \underline{\qquad} = \underline{\qquad}$

$6 \times \frac{11}{12} = \underline{\qquad} = \underline{\qquad}$

$\frac{7}{8} \times 12 = \underline{\qquad} = \underline{\qquad}$

$\frac{5}{7} \times \frac{2}{3} = \underline{\qquad}$

$\frac{7}{8} \times \frac{4}{5} = \underline{\qquad} = \underline{\qquad}$

$\frac{3}{10} \times \frac{5}{6} = \underline{\qquad} = \underline{\qquad}$

$\frac{5}{11} \times \frac{3}{4} = \underline{\qquad}$

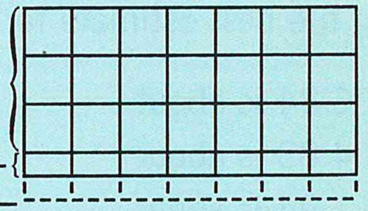
$\frac{6}{7} \times \frac{7}{9} = \underline{\qquad} = \underline{\qquad}$

$$\begin{aligned} 7 \times 3\tfrac{1}{2} &= 7 \times (3 + \tfrac{1}{2}) \\ &= (7 \times 3) + (7 \times \tfrac{1}{2}) \\ &= 21 + 3\tfrac{1}{2} \\ &= 24\tfrac{1}{2} \end{aligned}$$

$7 \times 3 = 21$

$7 \times \frac{1}{2} = 3\frac{1}{2}$

$\overline{24\frac{1}{2}}$



$$\begin{aligned} 8 \times 5\tfrac{3}{8} &= 8 \times (5 + \tfrac{3}{8}) \\ &= (8 \times 5) + (8 \times \tfrac{3}{8}) \\ &= \underline{\qquad} + \underline{\qquad} \\ &= \underline{\qquad} \end{aligned}$$

$$\begin{aligned} 9 \times 6\tfrac{4}{5} &= 9 \times (6 + \tfrac{4}{5}) \\ &= (9 \times \underline{\qquad}) + (9 \times \underline{\qquad}) \\ &= \underline{\qquad} + \underline{\qquad} \\ &= \underline{\qquad} \end{aligned}$$

Leave out step one shown in the example above.

$$\begin{aligned} 6 \times 8\tfrac{3}{10} &= (6 \times \underline{\qquad}) + (6 \times \underline{\qquad}) \\ &= \underline{\qquad} + \underline{\qquad} \\ &= \underline{\qquad} \end{aligned}$$

$$\begin{aligned} 7 \times 5\tfrac{6}{7} &= (7 \times \underline{\qquad}) + (7 \times \underline{\qquad}) \\ &= \underline{\qquad} + \underline{\qquad} \\ &= \underline{\qquad} \end{aligned}$$

Leave out steps one and two. Do them mentally.

$$\begin{aligned} 6 \times 4\tfrac{5}{7} &= \underline{\qquad} + \underline{\qquad} \\ &= \underline{\qquad} \end{aligned}$$

$$\begin{aligned} 4 \times 8\tfrac{2}{3} &= \underline{\qquad} + \underline{\qquad} \\ &= \underline{\qquad} \end{aligned}$$

$$\begin{aligned} 7 \times 5\tfrac{4}{9} &= \underline{\qquad} + \underline{\qquad} \\ &= \underline{\qquad} \end{aligned}$$

Multiplication: Fractions / Horizontal form

$7 \times \frac{6}{10} = \frac{42}{10} = 4\frac{2}{10}$

$7 \times .6 = 4.2$

$4 \times 3\frac{2}{10} = 12\frac{8}{10}$

$4 \times 3.2 = 12.8$

$2 \times 3\frac{12}{100} = 6\frac{24}{100}$

$2 \times 3.12 = 6.24$

Find the products.

$5 \times .5 =$ ______
$3 \times .9 =$ ______
$8 \times .4 =$ ______
$9 \times .8 =$ ______
$6 \times .7 =$ ______

$6 \times 2.5 =$ ______
$7 \times 8.2 =$ ______
$4 \times 3.1 =$ ______
$5 \times 7.3 =$ ______
$9 \times 5.4 =$ ______

$2 \times 9.34 =$ ______
$8 \times 3.12 =$ ______
$5 \times 8.03 =$ ______
$4 \times 7.22 =$ ______
$9 \times 5.67 =$ ______

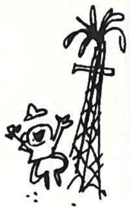
Ring the best estimate for each.

9 × 6.24 is about	540	54	5400	5
8 × 4.83 is about	4	400	40	4000
7 × 1.94 is about	140	14	1	1400
6 × 11.32 is about	660	66	6600	66000
12 × 5.17 is about	60	600	6	6000
20 × 41.09 is about	80	8	8000	800

Multiply, then compare with the above estimates.

$$\begin{array}{r} 6.24 \\ \times 9 \\ \hline \end{array} \qquad \begin{array}{r} 4.83 \\ \times 8 \\ \hline \end{array} \qquad \begin{array}{r} 1.94 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 11.32 \\ \times 6 \\ \hline \end{array} \qquad \begin{array}{r} 5.17 \\ \times 12 \\ \hline \end{array} \qquad \begin{array}{r} 41.09 \\ \times 20 \\ \hline \end{array}$$



$$\frac{8}{9} \div 4 = \frac{8}{9} \div \frac{4}{1} = \frac{8 \div 4}{9 \div 1} = \frac{2}{9}$$

$$= \frac{8}{9} \times \frac{1}{4} = \frac{8}{36} = \frac{2}{9}$$

$$\frac{6}{7} \div 3 = \frac{6}{7} \div \underline{\qquad} = \underline{\qquad}$$

$$= \frac{6}{7} \times \underline{\qquad} = \underline{\qquad}$$

$$\frac{10}{13} \div 5 = \frac{10}{13} \div \underline{\qquad} = \underline{\qquad}$$

$$= \frac{10}{13} \times \underline{\qquad} = \underline{\qquad}$$

$$\frac{7}{10} \div 7 = \frac{7}{10} \div \underline{\qquad} = \underline{\qquad}$$

$$= \frac{7}{10} \times \underline{\qquad} = \underline{\qquad}$$

$$\frac{5}{8} \div 5 = \frac{5}{8} \div \underline{\qquad} = \underline{\qquad}$$

$$= \frac{5}{8} \times \underline{\qquad} = \underline{\qquad}$$

$$\frac{16}{25} \div 2 = \frac{16}{25} \div \underline{\qquad} = \underline{\qquad}$$

$$= \frac{16}{25} \times \underline{\qquad} = \underline{\qquad}$$

$$\frac{3}{10} \div \frac{1}{5} = \frac{3}{2} = 1\frac{1}{2}$$

$$= \frac{3}{10} \times \frac{5}{1} = \frac{15}{10} = 1\frac{1}{2}$$

$$\frac{3}{8} \div \frac{1}{2} = \underline{\qquad}$$

$$= \frac{3}{8} \times \underline{\qquad} = \underline{\qquad}$$

$$\frac{15}{28} \div \frac{1}{4} = \underline{\qquad}$$

$$= \frac{15}{28} \times \underline{\qquad} = \underline{\qquad}$$

$$\frac{2}{9} \div \frac{2}{3} = \underline{\qquad}$$

$$= \frac{2}{9} \times \underline{\qquad} = \underline{\qquad}$$

$$\frac{9}{10} \div \frac{3}{5} = \underline{\qquad}$$

$$= \frac{9}{10} \times \underline{\qquad} = \underline{\qquad}$$

$$\frac{32}{35} \div \frac{4}{7} = \underline{\qquad}$$

$$= \frac{32}{35} \times \underline{\qquad} = \underline{\qquad}$$

$$\frac{11}{12} \div \frac{1}{3} = \underline{\qquad}$$

$$= \frac{11}{12} \times \underline{\qquad} = \underline{\qquad}$$

$$\frac{7}{15} \div \frac{1}{5} = \underline{\qquad}$$

$$= \frac{7}{15} \times \underline{\qquad} = \underline{\qquad}$$

$$\frac{2}{9} \div \frac{1}{3} = \underline{\qquad}$$

$$= \frac{2}{9} \times \underline{\qquad} = \underline{\qquad}$$

$$\frac{3}{8} \div \frac{3}{4} = \underline{\qquad}$$

$$= \frac{3}{8} \times \underline{\qquad} = \underline{\qquad}$$

$$\frac{14}{15} \div \frac{2}{3} = \underline{\qquad}$$

$$= \frac{14}{15} \times \underline{\qquad} = \underline{\qquad}$$

$$\frac{49}{100} \div \frac{7}{25} = \underline{\qquad}$$

$$= \frac{49}{100} \times \underline{\qquad} = \underline{\qquad}$$

Fill in.

$9 \times \square = 81$
$7 \times \square = 35$
$.8 \times \square = 3.2$

$5 \times \square = 40$
$8 \times \square = 56$
$.7 \times \square = 2.8$

$.7 \times \square = 4.2$
$6 \times \square = 48$
$1.2 \times \square = 7.2$

$9 \times \square = 54$
$.8 \times \square = 6.4$
$.4 \times \square = 3.6$

Divide.

$81 \div 9 =$ ____
$35 \div 5 =$ ____
$3.2 \div 4 =$ ____

$72 \div 8 =$ ____
$3.6 \div 4 =$ ____
$35 \div 7 =$ ____

$3.0 \div 6 =$ ____
$24 \div 8 =$ ____
$6.0 \div 5 =$ ____

$8.8 \div 8 =$ ____
$49 \div 7 =$ ____
$1.8 \div 6 =$ ____

Ring the best estimate for each.

$8.64 \div 4$ is about	.2	2	20	200
$42.78 \div 6$ is about	.07	700	7	70
$47.45 \div 5$ is about	9	.90	900	90
$110.79 \div 9$ is about	120	12	.12	1.2
$45.15 \div 15$ is about	.3	.03	30	3
$224.35 \div 7$ is about	300	.3	30	.30

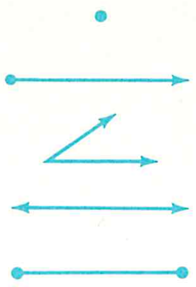
Divide, then compare with the estimate above.

$4\overline{)8.64}$ $6\overline{)42.78}$ $5\overline{)47.45}$

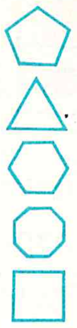
$9\overline{)110.79}$ $15\overline{)45.15}$ $7\overline{)224.35}$

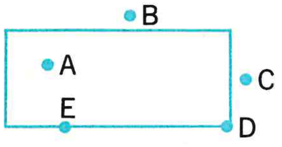
Match the drawing on the right with the correct word on the left.

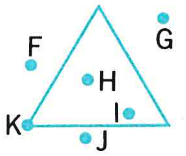
line segment
line
point
ray
angle

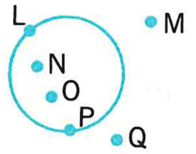


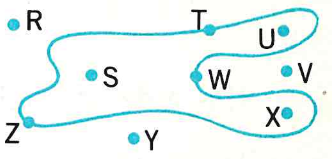
triangle
hexagon
quadrilateral
pentagon
octagon







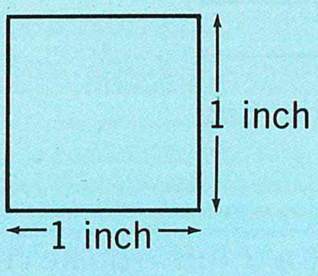


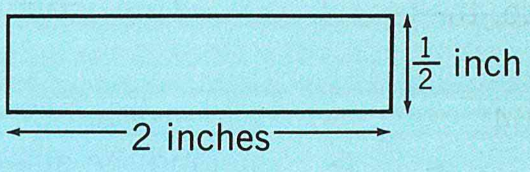


Identify the points in the above figures.

	Rectangle	Triangle	Circle	Irregular
In the interior region				
On the boundary				
In the exterior region				

Area is the measure of the interior region of a figure.



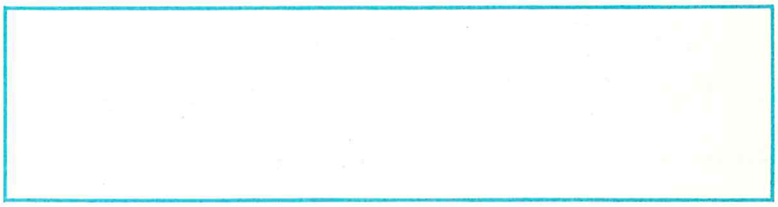


1 inch × 1 inch = 1 square inch

2 in. × $\frac{1}{2}$ in. = 1 sq. in.

How many square inches are there in this figure?

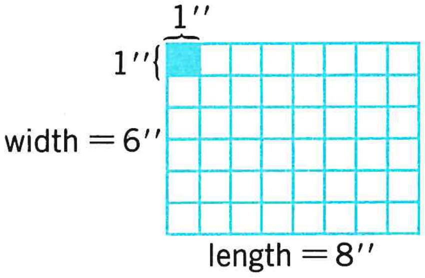
____



Several units of measure for area are square inch, square foot, and square yard.

Name another unit of measure for area. ____________

Area = Length × Width



What is the area of the shaded part? ____________

How many square inches are there in the rectangular region? ____________

What is the area of the rectangular region? ____________

Find the area of each rectangular region.

l = 9 in. w = 6 in.
A = l × w
= 9 × 6
A = _____ sq. in.

l = 4 ft. 6 in. w = 2 ft.
= $4\frac{1}{2}$ ft.
A = l × w
= $4\frac{1}{2} \times 2$
A = _____ sq. ft.

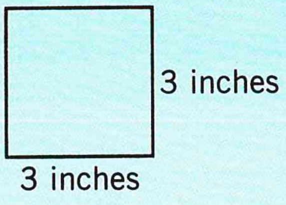
l = 2 ft. w = 9 in.
= $\frac{3}{4}$ ft.
A = l × w
= $2 \times \frac{3}{4}$
A = _____ sq. ft.

l = 7 in. w = 5 in.
A = _______
= _______
A = _______

l = 6 ft. w = 2 ft.
A = _______
= _______
A = _______

l = 3 ft. 6 in. w = 2 ft.
A = _______
= _______
A = _______

Find the area of a 3 inch square region.



A = l × w
A = s × s or s^2
= 3 × 3 or 3^2
A = 9 square inches

Find the area of each square region.

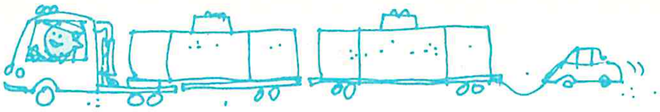
s = 5 in.
A = _______
= _______
A = _______

s = 4 ft.
A = _______
= _______
A = _______

s = 9 in.
A = _______
= _______
A = _______

s = 7 ft.
A = _______
= _______
A = _______

Testing



Write in exponential form, then in expandend notation.

7469 = ______________________________ = ____________________

42,016 = ______________________________ = ____________________

Compute.

$$\begin{array}{r} 3642 \\ 315 \\ 1837 \\ \hline \end{array} \qquad \begin{array}{r} 84703 \\ 29540 \\ 61879 \\ \hline \end{array} \qquad \begin{array}{r} 4267 \\ -1538 \\ \hline \end{array} \qquad \begin{array}{r} 3015 \\ -2468 \\ \hline \end{array}$$

$$\begin{array}{r} 613 \\ \times 32 \\ \hline \end{array} \qquad \begin{array}{r} 841 \\ \times 715 \\ \hline \end{array} \qquad 8\overline{)675} \qquad 15\overline{)7860}$$

Find the area of each polygon.

a rectangle—9 in. long, 7 in. wide

square whose side measures 6 in.

Find the perimeter of each of the above two polygons.

Rename as decimals.

$\frac{7}{10} =$ ____ | $\frac{1}{2} =$ ____ | $\frac{3}{10} =$ ____ | $\frac{2}{5} =$ ____ | $\frac{33}{10} =$ ____

$\frac{19}{100} =$ ____ | $\frac{73}{100} =$ ____ | $\frac{9}{20} =$ ____ | $\frac{3}{4} =$ ____ | $\frac{1}{100} =$ ____

Rename as fractions in simplest form.

.9 = ____ | .17 = ____ | 1.89 = ____ | .5 = ____ | .75 = ____

.31 = ____ | .2 = ____ | .10 = ____ | .35 = ____ | .01 = ____

Rewrite the decimals in order with the smallest value first.

2.0 .2 .02 2.2 | 6.0 .66 .06 .6 | 2.5 .5 .75 .09

____ ____ ____ ____ | ____ ____ ____ ____ | ____ ____ ____ ____

Compute.

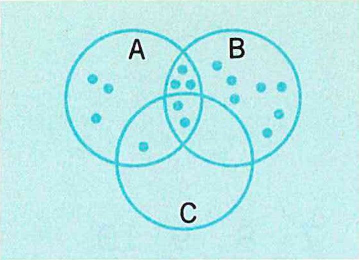
$4 \times \frac{5}{8} =$ ____ $\frac{3}{4} \times \frac{7}{10} =$ ____ $8 \times 3\frac{2}{5} =$ ____

$\frac{15}{6} \div 5 =$ ____ $\frac{3}{8} \div \frac{1}{2} =$ ____ $12 \div \frac{2}{3} =$ ____

$$\begin{array}{r} \frac{5}{8} \\ \frac{1}{2} \\ \frac{3}{4} \\ \hline \end{array} \qquad \begin{array}{r} 3\frac{5}{6} \\ 7\frac{3}{8} \\ 8\frac{7}{12} \\ \hline \end{array} \qquad \begin{array}{r} 8\frac{11}{24} \\ -5\frac{1}{12} \\ \hline \end{array} \qquad \begin{array}{r} 15\frac{1}{4} \\ -4\frac{5}{6} \\ \hline \end{array}$$

Compute.

$$\begin{array}{r} 21.6 \\ 7.05 \\ +18.49 \\ \hline \end{array} \qquad \begin{array}{r} 57.14 \\ -24.02 \\ \hline \end{array} \qquad \begin{array}{r} 38.27 \\ -19.41 \\ \hline \end{array} \qquad \begin{array}{r} 54.13 \\ \times 21 \\ \hline \end{array} \qquad 15\overline{)18.60}$$



How many dots are there in

A ____ B ____ C ____

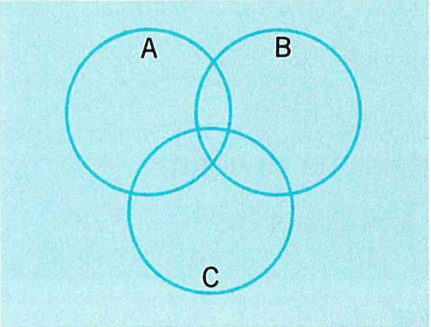
$A \cap B$ ____ $A \cap C$ ____ $B \cap C$ ____ $A \cap B \cap C$ ____

$A \cup B$ ____ $A \cup C$ ____ $B \cup C$ ____ $A \cup B \cup C$ ____

Fill in the Venn diagram from the information below.

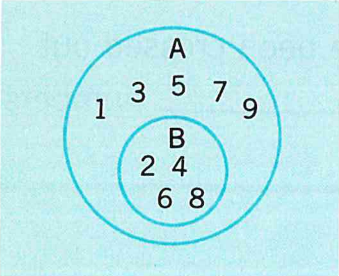
$A = \{1, 3, 4, 7, 8\}$ $B = \{2, 5, 7, 8, 9\}$

$C = \{3, 6, 9\}$



$A \cap B =$ ____ $A \cap C =$ ____ $B \cap C =$ ____ $A \cap B \cap C =$ ____

$A \cup B =$ ____ $A \cup C =$ ____ $B \cup C =$ ____ $A \cup B \cup C =$ ____



Complete.

$A =$ ____ $B =$ ____

$A \cap B =$ ____ $A \cup B =$ ____

What did you notice about $A \cap B$? ____

What did you notice about $A \cup B$? ____

Set	No. of elements	Subsets	No. of subsets
{a}	1	{ } {a}	2
{x, y}	2	{ } {x} {y} {x, y}	
{r, s, t}			
{d, e, f, g}			

How many subsets can be named if the set contains

1 element? ____

2 elements? ____

3 elements? ____

4 elements? ____

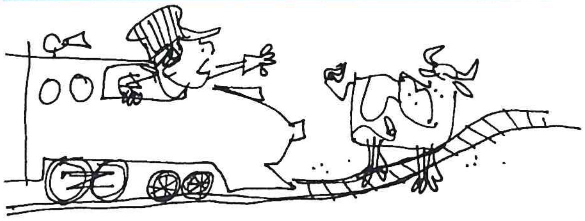
5 elements? ____

6 elements? ____

On the chart, draw a / through 1.
Draw a / through all multiples of 2 greater than 2.
Draw a / through all multiples of 3 greater than 3.
Repeat for multiples of 5 and 7 larger than 5 and 7.
Ring all numbers not crossed out.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

> A prime number is a number larger than 1 which can be divided only by 1 and itself.



All the numbers which have a ○ around them are examples of ______ numbers.

Those which have been crossed out are examples of ________ numbers.

Complete.

$7^2 = 7 \times 7 = 49$

$2^5 = 2 \times 2 \times 2 \times 2 \times 2 = 32$

$6^2 =$ ________________ = _____

$4^3 =$ ________________ = _____

$3^4 =$ ________________ = _____

$1^8 =$ ________________ = _____

$9^1 =$ ________ = _____

$10^6 =$ ________________ = _______

Fill in the missing factors. Do not use 1.

_____ × _____ = 18
_____ × _____ = 18

_____ × _____ = 36
_____ × _____ = 36
_____ × _____ = 36
_____ × _____ = 36

_____ × _____ = 24
_____ × _____ = 24
_____ × _____ = 24

_____ × _____ = 42
_____ × _____ = 42
_____ × _____ = 42

_____ × _____ = 12
_____ × _____ = 12

_____ × _____ = 100
_____ × _____ = 100
_____ × _____ = 100
_____ × _____ = 100

Complete.

$2^6 = 2 \times 2 \times 2 \times 2 \times 2 \times 2 =$ ____

$5^3 =$ ____________ $=$ ____

$8^2 =$ ____________ $=$ ____

$1^7 =$ ____________ $=$ ____

$7^1 =$ ____________ $=$ ____

$10^5 =$ ____________ $=$ ____

Find the missing factors. Do not use 1.

____ $\times$ ____ $= 16$

____ $\times$ ____ $= 16$

____ $\times$ ____ $= 30$

____ $\times$ ____ $= 30$

____ $\times$ ____ $= 30$

____ $\times$ ____ $= 45$

____ $\times$ ____ $= 45$

____ $\times$ ____ $= 72$

____ $\times$ ____ $= 72$

____ $\times$ ____ $= 72$

____ $\times$ ____ $= 72$

____ $\times$ ____ $= 72$

____ $\times$ ____ $= 28$

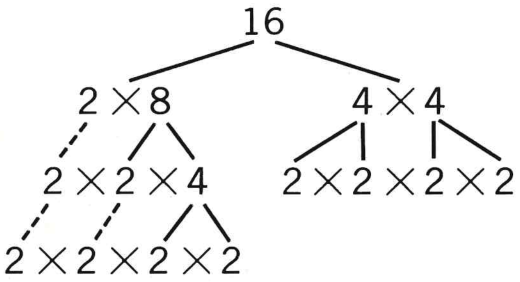
____ $\times$ ____ $= 28$

____ $\times$ ____ $= 105$

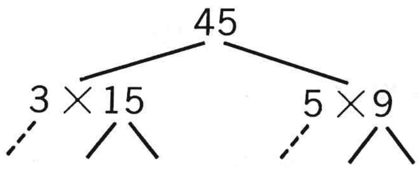
____ $\times$ ____ $= 105$

____ $\times$ ____ $= 105$

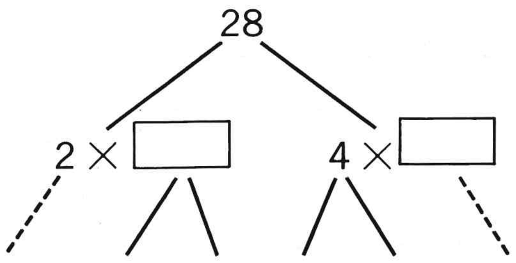
Complete the diagrams to show prime factors.



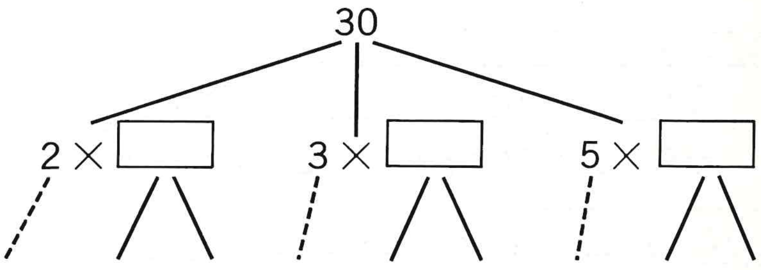
$16 = 2 \times 2 \times 2 \times$ 2



$45 =$ ____________



$28 =$ ____________



$30 =$ ____________

For 10^5, the _____ is called the base.
The _____ is called the exponent.
The _____ indicates how many times _____ is used as a factor.

True or false?

$2^4 = 4^2$ ____________
$4^3 = 3^4$ ____________
$8^2 = 2^6$ ____________
$3^4 = 9^2$ ____________
$5^2 = 2 \times 5$ ____________
$2^2 = 16 \div 2$ ____________

Arrange the following in order with the smallest value first.

34 $\quad 3 \times 4 \quad 3 + 4 \quad 3^4 \quad 4^3 \quad$ 43 | 12 $\quad 2^1 \quad 1 + 2 \quad 1^2 \quad$ 21 $\quad 1 \times 2$

Word name	Numeral	Repeated factor	Exponential form
one thousand	1000	$10 \times 10 \times 10$	10^3
sixteen			
twenty-five			
		$3 \times 3 \times 3 \times 3$	
	1,000,000		
			4^3
	49		
ten thousand			

Find the value of N.

When $N^2 = 36$
N = _____

When $N^2 = 100$
N = _____

When $N^2 = 144$
N = _____

Express each in expanded notation and in exponential form.

362 = 300 + ____ + ____
= (____ × 100) + (____ × 10) + 2
= (____ × 10^2) + (____ × 10) + 2

5071 = _____ + _____ + _____
= _____ + _____ + _____ + _____
= _____ + _____ + _____ + _____

9307 = _____ + _____ + _____
= _____ + _____ + _____ + _____
= _____ + _____ + _____ + _____

900 = _____
= _____ + _____ + _____
= _____ + _____ + _____

Ring each prime number.

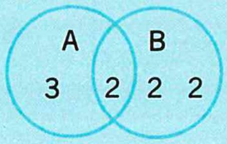
1 2 3 4 5 6 7 8 9 10
11 12 13 14 15 16 17 18 19 20

Factors of 6 = 1, 2, 3, 6
Factors of 8 = ____________
Factors of 10 = ____________
Factors of 12 = ____________
Factors of 15 = ____________

Multiples of 6 = ___, ___, ___, ___, ___, ___, ___
Multiples of 8 = ___, ___, ___, ___, ___, ___, ___
Multiples of 10 = ___, ___, ___, ___, ___, ___, ___
Multiples of 12 = ___, ___, ___, ___, ___, ___, ___
Multiples of 15 = ___, ___, ___, ___, ___, ___, ___

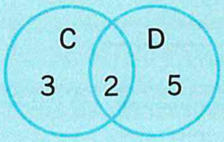
Numbers	Greatest common factor (divisor)	Least common multiple
6, 8	2	24
6, 10		
10, 15		
8, 12		
6, 15		

$A =$ Prime factors of 6
$B =$ Prime factors of 8



$A \cap B = 2$
$A \cup B = 3 \times 2 \times 2 \times 2 = 24$

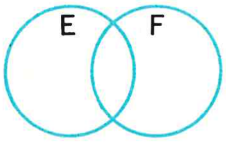
$C =$ Prime factors of 6
$D =$ Prime factors of 10



$C \cap D = 2$
$C \cup D = 3 \times 2 \times 5 = 30$

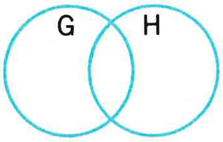
Complete.

$E =$ Prime factors of 12
$F =$ Prime factors of 15

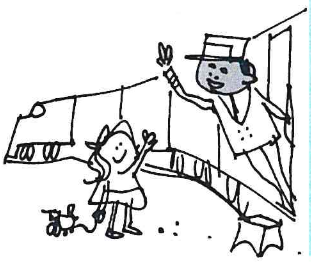


$E \cap F =$ ________
$E \cup F =$ ________________ = ______

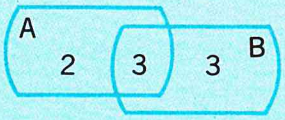
$G =$ Prime factors of 12
$H =$ Prime factors of 16



$G \cap H =$ ________
$G \cup H =$ ________________ = ______

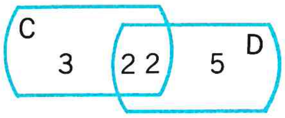


A = Prime factors of 6
B = Prime factors of 9



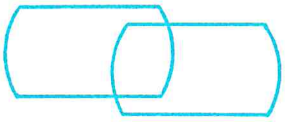
$A \cap B = 3$
$A \cup B = 2 \times 3 \times 3 = 18$

C = Prime factors of 12
D = Prime factors of 20



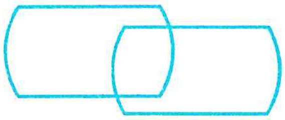
$C \cap D = 2 \times 2 =$ ____
$C \cup D =$ ____________

E = Prime factors of 6
F = Prime factors of 15



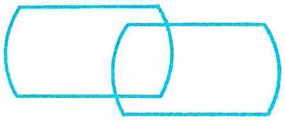
$E \cap F =$ ____
$E \cup F =$ ____________

G = Prime factors of 10
H = Prime factors of 15



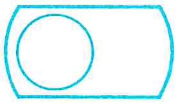
$G \cap H =$ ____
$G \cup I =$ ____________

I = Prime factors of 14
J = Prime factors of 21



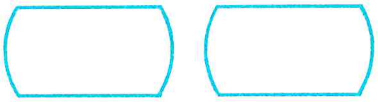
$I \cap J =$ ____
$I \cup J =$ ____________

K = Prime factors of 9
L = Prime factors of 36



$K \cap L =$ ____
$K \cup L =$ ____________

R = Prime factors of 10
S = Prime factors of 21



$R \cap S =$ ____
$S \cup S =$ ____________

Greatest common factor/Least common multiple

Numbers	Greatest common factor (divisor)	Least common multiple
6, 9	3	18
12, 20	4	60
6, 15		
10, 15		
14, 21		
9, 36		
16, 36		
24, 90		
10, 21		

Complete the charts.

9					
7					
5					
3					
1					
×	1	3	5	7	9

8					
6					
4					
2					
0					
×	0	2	4	6	8

9					
7					
5					
3					
1					
×	0	2	4	6	8

What kind of numbers are 1, 3, 5, 7, 9? ____________________

What kind of numbers are 0, 2, 4, 6, 8? ____________________

In the first chart ______ numbers are multiplied by ______ numbers.

What do you notice about these products? ________________

In the second chart ______ numbers are multiplied by ______ numbers.

What do you notice about these products? ________________

In the third chart ______ numbers are multiplied by ______ numbers.

What do you notice about these products? ________________

Try to complete this chart with the word odd or even.

×	odd	even
odd		
even		

Write: Four multiples of 8 ____ ____ ____ ____

Four multiples of 9 ____ ____ ____ ____

Four even multiples of 5 ____ ____ ____ ____

Four odd multiples of 3 ____ ____ ____ ____

Four even multiples of 6 ____ ____ ____ ____

Complete:

odd × ______ = even

even × even = ______

odd × ______ = odd

Fill in the blanks with the word sometimes, always, or never.

A multiple of 6 is ____________ an even number.

A multiple of 5 is ____________ an even number.

A multiple of 3 is ____________ an odd number.

A multiple of 4 is ____________ an odd number.

Find the quotients.

4 ÷ 1 = ____
3 ÷ 1 = ____
2 ÷ 1 = ____
1 ÷ 1 = ____
0 ÷ 1 = ____

8 ÷ 2 = ____
6 ÷ 2 = ____
4 ÷ 2 = ____
2 ÷ 2 = ____
0 ÷ 2 = ____

12 ÷ 3 = ____
9 ÷ 3 = ____
6 ÷ 3 = ____
3 ÷ 3 = ____
0 ÷ 3 = ____

0 ÷ 1 = ____
0 ÷ 2 = ____
0 ÷ 3 = ____
0 ÷ 19 = ____
0 ÷ 27 = ____

Find the quotients and missing factors.

20 ÷ 4 = ____
18 ÷ 3 = ____
24 ÷ 8 = ____
12 ÷ 3 = ____
35 ÷ 5 = ____

____ × 4 = 20
____ × 3 = 18
____ × 8 = 24
____ × 3 = 12
____ × 5 = 35

0 ÷ 3 = ____
0 ÷ 10 = ____
0 ÷ 1 = ____
0 ÷ 13 = ____
0 ÷ 79 = ____

____ × 3 = 0
____ × 10 = 0
____ × 1 = 0
____ × 13 = 0
____ × 79 = 0

In the above examples we can see that since 8 ÷ 4 = 2 then 2 × 4 = 8.
Also since 0 ÷ 5 = 0 then 0 × 5 = 0.

Try to find some value which will make the following pairs true.

5 ÷ 0 = ☐ ☐ × 0 = 5
8 ÷ 0 = ☐ ☐ × 0 = 8

7 ÷ 0 = ☐ ☐ × 0 = 7
3 ÷ 0 = ☐ ☐ × 0 = 3

Will zero make the above pairs true? ____
Will any number make the above pairs true? ____
Division of any number by ________ is meaningless.

4 × 0 = ____
0 + 4 = ____
4 − 0 = ____

0 ÷ 4 = ____
4 + 0 = ____
0 × 4 = ____

0 + 0 = ____
4 − 4 = ____
4 ÷ 0 = ____________

Write +, −, ×, or ÷.

5 .... 0 = 0
0 .... 5 = 5

8 .... 0 = 8
0 .... 8 = 0

0 .... 10 = 10
0 .... 10 = 0

Find the products.

658 × 10 = ________
658 × 100 = ________
658 × 1000 = ________

6072 × 10 = ________
6072 × 100 = ________
6072 × 1000 = ________

100 × 526 = ________
200 × 526 = ________
300 × 526 = ________

916 × 10 = ________
916 × 100 = ________
916 × 1000 = ________

1865 × 10 = ________
1865 × 100 = ________
1865 × 1000 = ________

100 × 312 = ________
200 × 312 = ________
300 × 312 = ________

104 × 10 = ________
104 × 100 = ________
104 × 1000 = ________

7003 × 10 = ________
7003 × 100 = ________
7003 × 1000 = ________

100 × 734 = ________
200 × 734 = ________
400 × 734 = ________

Estimate only. Do not multiply exactly.

417 × 572 is about 400 × 600 = 240,000
193 × 381 is about ________ = ________
368 × 624 is about ________ = ________
239 × 487 is about ________ = ________
706 × 914 is about ________ = ________
520 × 677 is about ________ = ________

Multiply, then compare products with the estimates above.

417
× 572

487
× 239

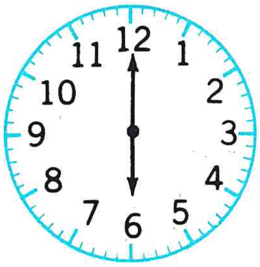
381
× 193

914
× 706

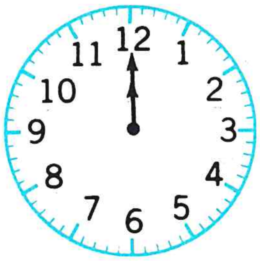
624
× 368

677
× 520

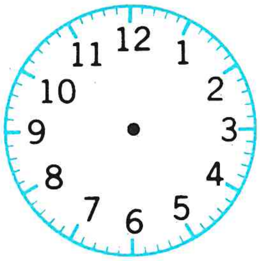
Fill in the correct time or draw the clock hands.



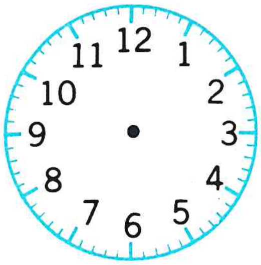
______ o'clock



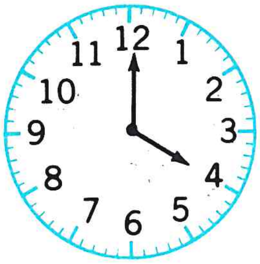
______ o'clock



2:00



3:00



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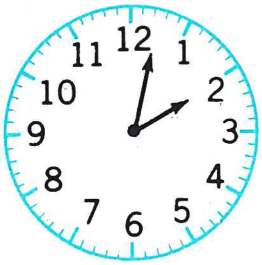

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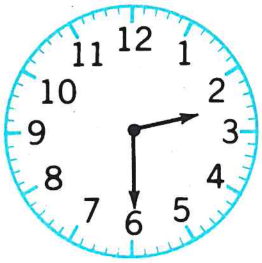
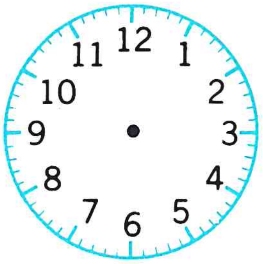
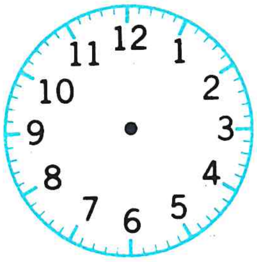


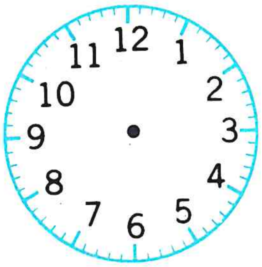
half past ______



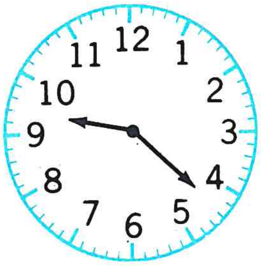
half past 5



half past 11



7:30



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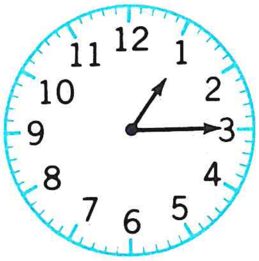
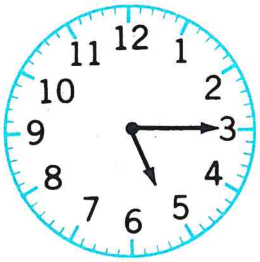
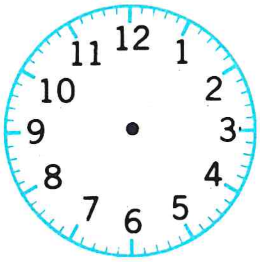


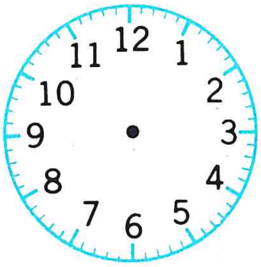
quarter past ______



quarter past ______



6:15



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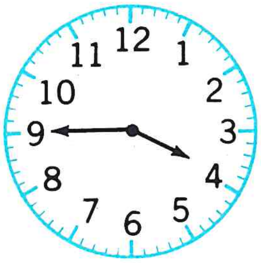
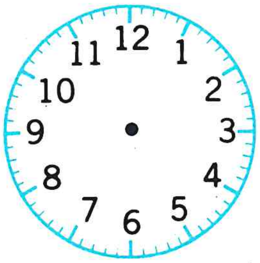


quarter to ______



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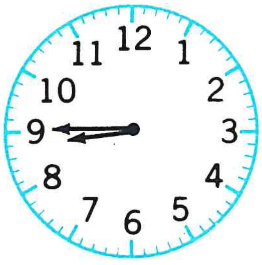

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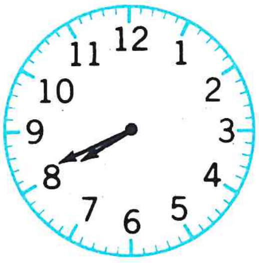

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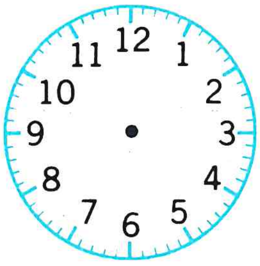


5:49

Fill in.

30 × ____ = 180
7 × ____ = 280
____ × 60 = 300
80 × ____ = 1600
____ × 40 = 3600

____ × 50 = 3500
40 × ____ = 3200
____ × 90 = 6300
____ × 300 = 15000
20 × ____ = 8000

____ × 70 = 5600
50 × ____ = 25000
____ × 200 = 14000
40 × ____ = 24000
____ × 600 = 480000

Find the missing factors.

51 × ____ = 357
51 × ____ = 3570
51 × ____ = 35700

46 × ____ = 184
46 × ____ = 1840
46 × ____ = 18400

32 × ____ = 256
32 × ____ = 2560
32 × ____ = 25600

37 × ____ = 185
37 × ____ = 1850
37 × ____ = 18500

74 × ____ = 592
74 × ____ = 5920
74 × ____ = 59200

95 × ____ = 190
95 × ____ = 1900
95 × ____ = 19000

82 × ____ = 492
82 × ____ = 4920
82 × ____ = 49200

63 × ____ = 189
63 × ____ = 1890
63 × ____ = 18900

41 × ____ = 369
41 × ____ = 3690
41 × ____ = 36900

Find each quotient and check.

$31\overline{)1922}$

$54\overline{)1698}$

$124\overline{)3720}$

$314\overline{)6719}$

Estimate.

2364 ÷ 64
2000 ÷ 60 is about _____

3947 ÷ 71
4000 ÷ 70 is about _____

3051 ÷ 113
3000 ÷ 100 is about _____

36879 ÷ 509
37000 ÷ _____ is about _____

7412 ÷ 218
7400 ÷ _____ is about _____

11745 ÷ 856
12000 ÷ 900 is about _____

Divide and check each problem. Then compare with the estimates above.

$64\overline{)2364}$

$71\overline{)3947}$

$113\overline{)3051}$

$218\overline{)7412}$

$509\overline{)36879}$

$856\overline{)11745}$

Ring the names for whole numbers.

$\frac{2}{3}$ $\frac{45}{15}$ $\frac{6}{1}$ $\frac{32}{20}$ $\frac{36}{9}$ $\frac{5}{8}$ $\frac{19}{18}$ $\frac{42}{42}$ $\frac{30}{60}$

Rewrite the fractions in order with the smallest value first.

$\frac{11}{19}, \frac{3}{19}, \frac{8}{19}, \frac{15}{19}$

$\frac{7}{16}, \frac{7}{15}, \frac{7}{12}, \frac{7}{20}$

$\frac{2}{3}, \frac{3}{4}, \frac{1}{2}, \frac{7}{12}$

$\frac{17}{16}, 1, \frac{16}{17}, \frac{1}{17}$

$\frac{42}{30}, \frac{16}{15}, \frac{13}{10}, 1$

$\frac{11}{13}, \frac{7}{9}, \frac{9}{11}, \frac{5}{7}$

Write $>$, $<$, or $=$.

$\frac{3}{8}$ _________ $\frac{1}{4}$

$\frac{15}{16}$ _________ $\frac{45}{48}$

$\frac{19}{20}$ _________ $\frac{19}{38}$

$\frac{40}{48}$ _________ $\frac{5}{6}$

$\frac{1}{6}$ _________ $\frac{5}{36}$

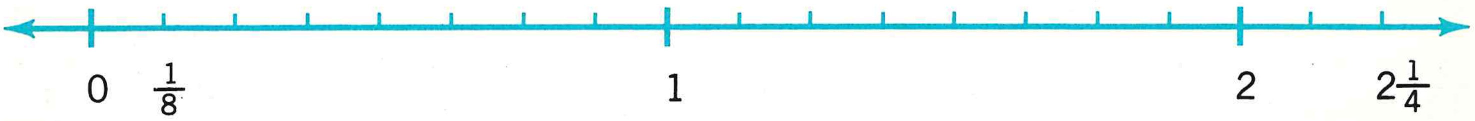
$\frac{13}{14}$ _________ $\frac{14}{13}$

$\frac{27}{9}$ _________ $\frac{5}{2}$

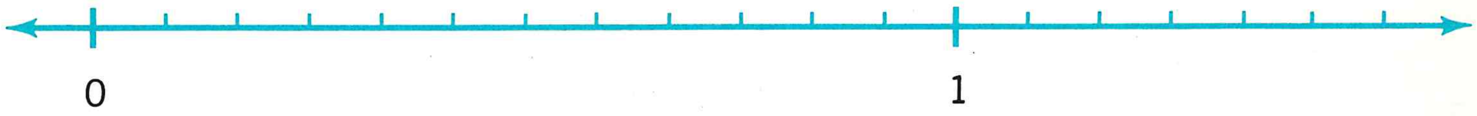
$\frac{25}{100}$ _________ $\frac{1}{4}$

$\frac{5}{8}$ _________ $\frac{11}{12}$

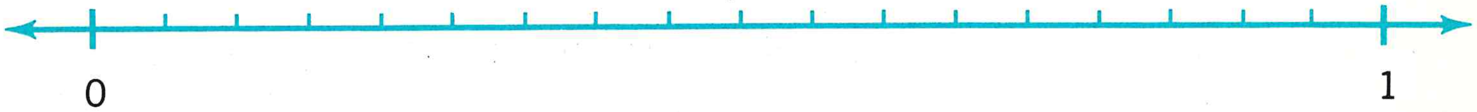
Label halves, fourths, and eighths.



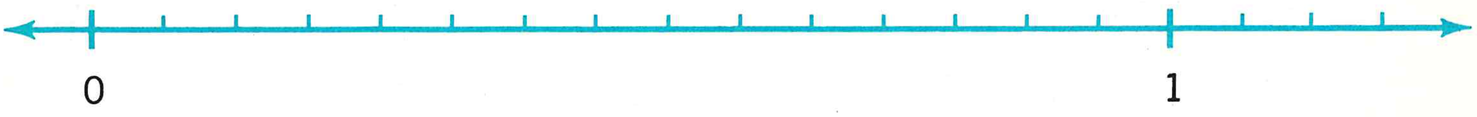
Label only halves, thirds, and fourths.



Label only thirds, sixths, and ninths.



Label only thirds and fifths.



Complete the chart.

tenths		thousandths
	$\frac{1}{100}$	$\frac{1}{1000}$
$\frac{1}{10}$	$\frac{1}{10} \times \frac{1}{10}$	

Rename. Follow the pattern.

$\frac{1}{10}$	$\frac{10}{100}$	$\frac{100}{1000}$	.1	.10	.100
$\frac{2}{10}$					
	$\frac{30}{100}$				
		$\frac{500}{1000}$			
			.9		

Write in decimal form.

$\frac{1}{10}$ = ______

$\frac{7}{10}$ = ______

$\frac{8}{10}$ = ______

$\frac{10}{10}$ = ______

$\frac{14}{10}$ = ______

$\frac{27}{100}$ = ______

$\frac{69}{100}$ = ______

$\frac{80}{100}$ = ______

$\frac{6}{100}$ = ______

$\frac{1}{100}$ = ______

$\frac{100}{100}$ = ______

$\frac{138}{100}$ = ______

$\frac{301}{100}$ = ______

$\frac{647}{1000}$ = ______

$\frac{580}{1000}$ = ______

$\frac{400}{1000}$ = ______

$\frac{74}{1000}$ = ______

$\frac{3}{1000}$ = ______

$\frac{1000}{1000}$ = ______

$\frac{1824}{1000}$ = ______

Rewrite the following numbers in order with the smallest value first.

0.1, .01, .001, 1.0

$\frac{3}{4}$, .034, .075, 75.0

1.0, .9, .99, .999

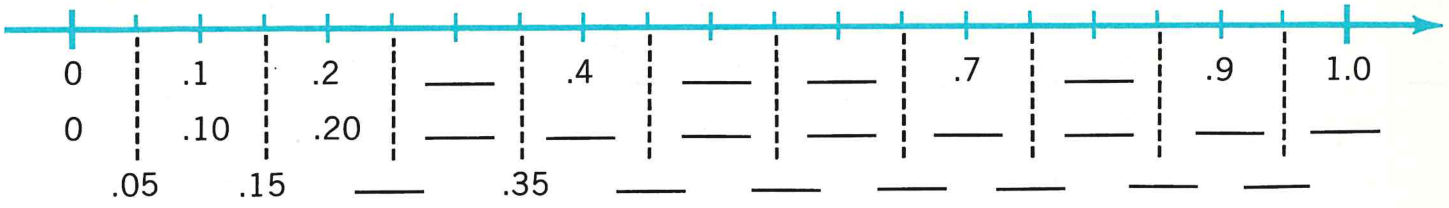
.10, 2.0, .030, .40

.010, 0.8, 5.0, .700

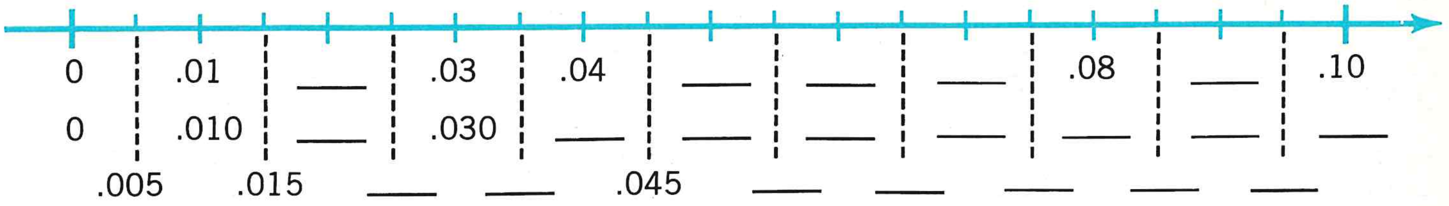
$\frac{9}{10}$, .09, $\frac{9}{1000}$, $\frac{90}{10}$

Fill in the blanks on the number rays.

Tenths and hundredths



Hundredths and thousandths



Rewrite the following numbers in order with the smallest value first.

.17 .1 .21 .2

.23 .29 .2 .3

.37 .35 .4 .3

.062 .06 .068 .07

.55 .05 .5 .055

.08 .8 .88 .088

Fill in the blanks. Use the number rays above.

Nearest tenth

.47 is between .4 and .5 but is closer to .5
.13 is between ____ and ____ but is closer to ____
.89 is between ____ and ____ but is closer to ____
.54 is between ____ and ____ but is closer to ____
.61 is between ____ and ____ but is closer to ____

Nearest hundredth

.068 is between ____ and ____ but is closer to ____
.013 is between ____ and ____ but is closer to ____
.054 is between ____ and ____ but is closer to ____
.849 is between ____ and ____ but is closer to ____
.521 is between ____ and ____ but is closer to ____

Nearest tenth / Nearest hundredth

Find the sums.

$$\begin{array}{cccc} \frac{5}{9} & \frac{1}{6} & \frac{7}{12} & \frac{5}{8} \\ \underline{\frac{2}{9}} & \underline{\frac{2}{3}} & \underline{\frac{11}{12}} & \underline{\frac{2}{3}} \end{array}$$

$$\begin{array}{cccc} \frac{2}{9} & \frac{5}{12} & \frac{3}{10} & \frac{4}{9} \\ \frac{5}{9} & \frac{1}{4} & \frac{9}{10} & \frac{1}{2} \\ \underline{\frac{1}{9}} & \underline{\frac{1}{6}} & \underline{\frac{7}{10}} & \underline{\frac{5}{6}} \end{array}$$

$$\begin{array}{cccc} 4\frac{7}{15} & 11\frac{5}{8} & 8\frac{1}{6} & 20\frac{4}{5} \\ 1\frac{2}{15} & 5\frac{3}{8} & 10\frac{3}{8} & 6\frac{3}{4} \\ \underline{2\frac{4}{15}} & \underline{23\frac{7}{8}} & \underline{1\frac{7}{24}} & \underline{17\frac{7}{10}} \end{array}$$

Find the differences.

$$\begin{array}{cccc} \frac{7}{12} & \frac{9}{10} & 8\frac{11}{12} & 13\frac{5}{6} \\ \underline{\frac{5}{12}} & \underline{\frac{3}{10}} & \underline{6\frac{5}{12}} & \underline{8\frac{1}{2}} \end{array}$$

$$\begin{array}{cccc} 24\frac{1}{5} & 32\frac{5}{8} & 17\frac{1}{5} & 45\frac{4}{9} \\ \underline{11\frac{4}{5}} & \underline{19\frac{3}{4}} & \underline{12\frac{7}{10}} & \underline{29\frac{5}{6}} \end{array}$$

$\frac{2}{3}$ of 6 = $\frac{2}{3} \times \frac{6}{1}$ = ____

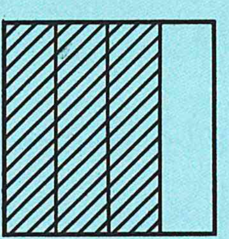
$\frac{3}{7}$ of 10 = ____ × ____ = ____

$\frac{7}{10}$ of 30 = ____ × ____ = ____

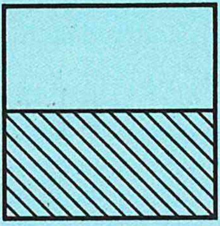
$\frac{4}{5}$ of 9 = ____ × ____ = ____

$\frac{5}{8}$ of 40 = ____ × ____ = ____

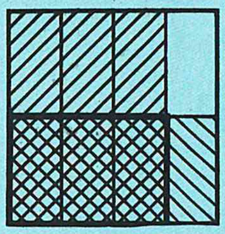
$\frac{3}{4}$ of 15 = ____ × ____ = ____



$\frac{3}{4}$ of a unit



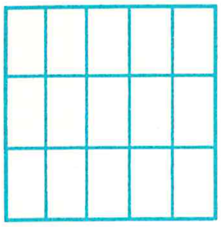
$\frac{1}{2}$ of a unit



$\frac{1}{2}$ of $\frac{3}{4} = \frac{3}{8}$

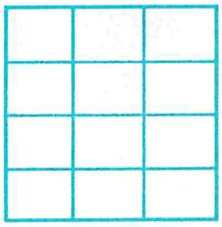
$\frac{1}{2}$ of $\frac{3}{4} = \frac{1}{2} \times \frac{3}{4} = \frac{3}{8}$

Shade a part of each square to show the product.



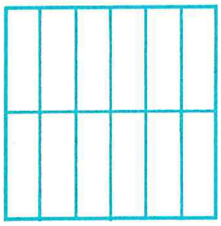
$\frac{2}{3}$ of $\frac{4}{5}$

____ × ____ = ____



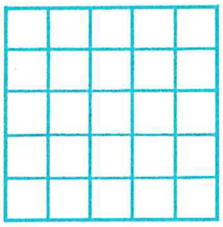
$\frac{1}{3}$ of $\frac{3}{4}$

____ × ____ = ____



$\frac{1}{2}$ of $\frac{5}{6}$ =

____ × ____ = ____



$\frac{2}{5}$ of $\frac{4}{5}$ =

____ × ____ = ____

Find the products.

$\frac{3}{7}$ of $\frac{5}{8}$ = ____

$\frac{2}{11}$ of $\frac{4}{5}$ = ____

$\frac{6}{12}$ of $\frac{3}{4}$ = ____ = ____

$\frac{1}{5}$ of $\frac{11}{12}$ = ____

$\frac{2}{3}$ of $\frac{7}{8}$ = ____ = ____

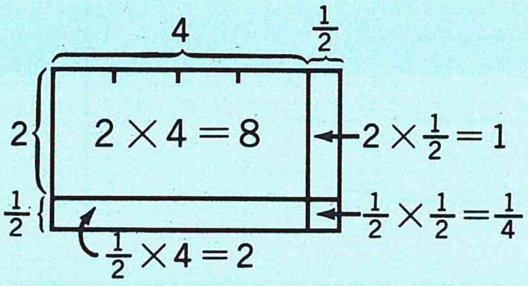
$\frac{5}{6}$ of $\frac{9}{10}$ = ____ = ____

$\frac{7}{10}$ of $\frac{8}{9}$ = ____ = ____

$\frac{3}{4}$ of $\frac{5}{12}$ = ____ = ____

$\frac{11}{5}$ of $\frac{5}{3}$ = ____ = ____

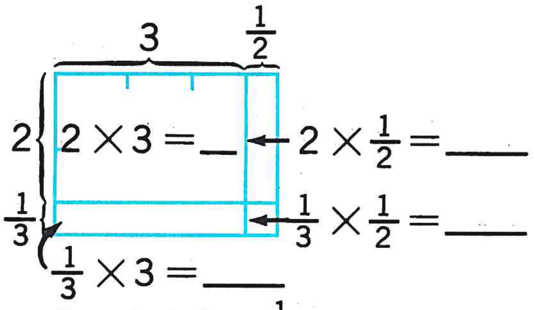
$2\frac{1}{2} \times 4\frac{1}{2}$



4
$\frac{1}{2}$
2
$\frac{1}{2}$
$2 \times 4 = 8$
$2 \times \frac{1}{2} = 1$
$\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$
$\frac{1}{2} \times 4 = 2$

$8 + 2 + 1 + \frac{1}{4} = 11\frac{1}{4}$

$2\frac{1}{3} \times 3\frac{1}{2}$



3
$\frac{1}{2}$
2
$\frac{1}{3}$
$2 \times 3 = \underline{\quad}$
$2 \times \frac{1}{2} = \underline{\qquad}$
$\frac{1}{3} \times \frac{1}{2} = \underline{\qquad}$
$\frac{1}{3} \times 3 = \underline{\qquad}$

$6 + 1 + 1 + \frac{1}{6} = \underline{\qquad}$

$2\frac{1}{3} \times 3\frac{1}{2} = (2 + \frac{1}{3}) \times (3 + \underline{\qquad})$

$= 2 \times (3 + \frac{1}{2}) + \frac{1}{3} \times (\underline{\qquad} + \frac{1}{2})$

$= (2 \times 3) + (\underline{\qquad} \times \frac{1}{2}) + (\frac{1}{3} \times 3) + (\frac{1}{3} \times \underline{\qquad})$

$= \underline{\qquad} + \underline{\qquad} + \underline{\qquad} + \underline{\qquad} = \underline{\qquad}$

$2\frac{1}{3} \times 3\frac{1}{2} = \frac{7}{3} \times \frac{7}{2} = \frac{49}{6} = 8\frac{1}{6}$

Find the products.

$2\frac{1}{2} \times 4\frac{1}{2} = \frac{\ }{2} \times \frac{\ }{2} = \underline{\qquad} = \underline{\qquad}$

$3\frac{1}{5} \times 2\frac{1}{2} = \underline{\qquad\qquad} = \underline{\qquad} = \underline{\qquad}$

$2\frac{1}{4} \times 2\frac{2}{3} = \underline{\qquad\qquad} = \underline{\qquad} = \underline{\qquad}$

$3\frac{1}{2} \times 2\frac{3}{4} = \underline{\qquad\qquad} = \underline{\qquad} = \underline{\qquad}$

$1\frac{1}{3} \times 4\frac{1}{2} = \underline{\qquad\qquad} = \underline{\qquad} = \underline{\qquad}$

$2\frac{4}{5} \times 1\frac{1}{2} = \underline{\qquad\qquad} = \underline{\qquad} = \underline{\qquad}$

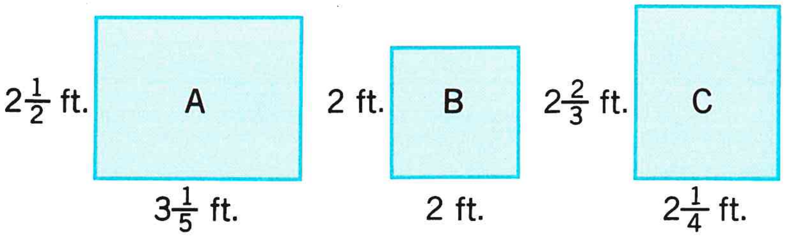
$1\frac{2}{3} \times 3\frac{2}{5} = \underline{\qquad\qquad} = \underline{\qquad} = \underline{\qquad}$

$2\frac{2}{5} \times 3\frac{1}{8} = \underline{\qquad\qquad} = \underline{\qquad} = \underline{\qquad}$

$5\frac{1}{4} \times 1\frac{3}{5} = \underline{\qquad\qquad} = \underline{\qquad} = \underline{\qquad}$

$1\frac{1}{5} \times 4\frac{3}{10} = \underline{\qquad\qquad} = \underline{\qquad} = \underline{\qquad}$

Which of the rectangles is a square? $\underline{\qquad}$



The area of the largest rectangle is $\underline{\qquad}$ sq. ft.

The area of the smallest rectangle is $\underline{\qquad}$ sq. ft.

The area of the other rectangle is $\underline{\qquad}$ sq. ft.

Compare the products.

$4 \times \frac{7}{10} = \frac{28}{10} = 2\frac{8}{10}$

$4 \times .7 = 2.8$

$7 \times \frac{69}{100} = \frac{483}{100} = 4\frac{83}{100}$

$7 \times .69 = 4.83$

$3 \times \frac{521}{1000} = \frac{1563}{1000} = 1\frac{563}{1000}$

$3 \times .521 = 1.563$

Place the decimal point in the products.

5 × 2.4 = 1 2 0
8 × .12 = 9 6
4 × .57 = 2 2 8
7 × 3.95 = 2 7 6 5

5 × 4.516 = 2 2 5 8 0
3 × 3.017 = 9 0 5 1
7 × 11.144 = 7 8 0 0 8
4 × 3.275 = 1 3 1 0 0

Find the products.

4 × .2 = _____
6 × 3.1 = _____
7 × .8 = _____
3 × 4.7 = _____

9 × 6.8 = _____
2 × .43 = _____
5 × .38 = _____
3 × 4.74 = _____

2 × .413 = _____
6 × .628 = _____
9 × 2.174 = _____
8 × 1.009 = _____

Ring the best estimate.

15 × 4.267 is about	.600	60	600	6.000
21 × 4.194 is about	840	8.400	.840	84
52 × 2.018 is about	104	1.040	.104	10.400
25 × 3.798 is about	1.000	100	.100	10.000

Multiply, then compare with the estimates above.

$\begin{array}{r} 4.267 \\ \times 15 \\ \hline \end{array}$ $\quad$ $\begin{array}{r} 4.194 \\ \times 21 \\ \hline \end{array}$ $\quad$ $\begin{array}{r} 2.018 \\ \times 52 \\ \hline \end{array}$ $\quad$ $\begin{array}{r} 3.798 \\ \times 25 \\ \hline \end{array}$

$\frac{3}{10} \times \frac{2}{10} = \frac{6}{100}$

$.3 \times .2 = .06$

$\frac{6}{10} \times \frac{7}{10} = \frac{42}{100}$

$.6 \times .7 = .42$

$\frac{9}{10} \times \frac{87}{100} = \frac{783}{1000}$

$.9 \times .87 = .783$

Place the decimal point in the products.

$9 \times .07 = 63$
$.6 \times .5 = 30$
$.2 \times 3.4 = 68$
$.03 \times 15 = 45$

$4 \times .825 = 3300$
$.8 \times 1.23 = 984$
$.03 \times 4.6 = 138$
$.3 \times .02 = 006$

Find the products.

$.4 \times .6 =$ _____
$.7 \times .1 =$ _____
$4 \times .21 =$ _____
$5 \times .64 =$ _____

$.7 \times 4.9 =$ _____
$.1 \times 1.1 =$ _____
$.3 \times .42 =$ _____
$.2 \times .34 =$ _____

$.4 \times .08 =$ _____
$6 \times .147 =$ _____
$5 \times .746 =$ _____
$7 \times .858 =$ _____

Ring the best estimates.

3.1 × 12.47 is about	.36	36	3.6	.036
1.8 × 27.12 is about	54	.54	.054	5.4
15 × 2.41 is about	.030	.30	3.0	30
.94 × 137.6 is about	1376	137.6	1.376	13.76

Multiply, then compare with estimates above.

$$\begin{array}{r} 12.47 \\ \times 3.1 \\ \hline \end{array} \qquad \begin{array}{r} 27.12 \\ \times 1.8 \\ \hline \end{array} \qquad \begin{array}{r} 2.41 \\ \times 15 \\ \hline \end{array} \qquad \begin{array}{r} 137.6 \\ \times .94 \\ \hline \end{array}$$

Fill in the $\square$.

$\frac{2}{2} = \square$

$\dfrac{\frac{1}{4}}{\frac{1}{4}} = \square$

$\frac{7}{7} = \square$

$\dfrac{\frac{2}{3}}{\frac{2}{3}} = \square$

$\dfrac{5}{} = 1$

$\dfrac{\frac{1}{6}}{\square} = 1$

$\dfrac{27}{} = 1$

$\dfrac{\frac{7}{8}}{\square} = 1$

Fill in.

$\frac{1}{2} \times \frac{2}{1} = \square$

$\frac{1}{8} \times \square = 1$

$\frac{7}{1} \times \frac{1}{7} = \square$

$\frac{13}{1} \times \square = 1$

$\frac{2}{3} \times \frac{3}{2} = \square$

$\square \times \frac{4}{5} = 1$

$\frac{4}{7} \times \frac{7}{4} = \square$

$\square \times \frac{6}{5} = 1$

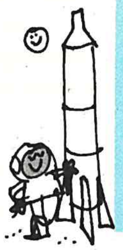
Rewrite each problem as a fraction.

$\frac{2}{3} \div \frac{1}{5} = \dfrac{\frac{2}{3}}{\frac{1}{5}}$

$6 \div 11 = \underline{}$

$5 \div 4 = \underline{}$

$\frac{1}{2} \div \frac{5}{6} = \underline{}$



$$\frac{3}{4} \div 4 = \frac{3}{4} \div \frac{4}{1} = \dfrac{\frac{3}{4}}{\frac{4}{1}} = \dfrac{\frac{3}{4}}{\frac{4}{1}} \times \dfrac{\frac{1}{4}}{\frac{1}{4}} = \dfrac{\frac{3}{4} \times \frac{1}{4}}{\frac{4}{1} \times \frac{1}{4}} = \dfrac{\frac{3}{16}}{1} = \frac{3}{16}$$

This is why $\frac{3}{4} \div 4 = \frac{3}{4} \times \frac{1}{4} = \frac{3}{16}$.

Find the quotients. Use the simple method.

$\frac{3}{7} \div 2 = \frac{3}{7} \times \frac{1}{2} = \underline{}$

$\frac{4}{5} \div 6 = \underline{} = \underline{}$

$\frac{2}{3} \div 8 = \underline{} = \underline{}$

$\frac{3}{8} \div 5 = \underline{} = \underline{}$

$\frac{9}{10} \div 3 = \underline{} = \underline{}$

$\frac{5}{9} \div \frac{2}{7} = \frac{5}{9} \times \frac{7}{2} = \underline{}$

$\frac{1}{2} \div \frac{5}{6} = \underline{} = \underline{}$

$\frac{3}{8} \div \frac{2}{5} = \underline{} = \underline{}$

$\frac{1}{4} \div \frac{3}{7} = \underline{} = \underline{}$

$\frac{4}{5} \div \frac{1}{9} = \underline{} = \underline{}$

Find the quotients.

$\frac{4}{5} \div 9 = \frac{4}{5} \times \frac{1}{9} = \underline{\qquad}$

$\frac{2}{3} \div 7 = \frac{2}{3} \times \underline{\qquad} = \underline{\qquad}$

$\frac{3}{8} \div 9 = \frac{3}{8} \times \underline{\qquad} = \underline{\qquad}$

$\frac{9}{10} \div 4 = \underline{\qquad} \times \underline{\qquad} = \underline{\qquad}$

$\frac{2}{3} \div 14 = \underline{\qquad} \times \underline{\qquad} = \underline{\qquad}$

$4 \div \frac{1}{2} = \frac{4}{1} \times \frac{2}{1} = \underline{\qquad}$

$10 \div \frac{2}{5} = \frac{10}{1} \times \underline{\qquad} = \underline{\qquad}$

$12 \div \frac{3}{4} = \frac{12}{1} \times \underline{\qquad} = \underline{\qquad}$

$9 \div \frac{3}{5} = \underline{\qquad} \times \underline{\qquad} = \underline{\qquad}$

$8 \div \frac{4}{7} = \underline{\qquad} \times \underline{\qquad} = \underline{\qquad}$

$$\begin{aligned} 6\tfrac{1}{4} \div \tfrac{2}{3} &= \tfrac{25}{4} \div \tfrac{2}{3} \\ &= \tfrac{25}{4} \times \tfrac{3}{2} \\ &= \tfrac{75}{8} = 9\tfrac{3}{8} \end{aligned}$$

$4\frac{3}{5} \div \frac{3}{10} = \underline{\qquad}$

$= \underline{\qquad}$

$= \underline{\qquad} = \underline{\qquad}$

$2\frac{1}{3} \div \frac{2}{5} = \underline{\qquad}$

$= \underline{\qquad}$

$= \underline{\qquad} = \underline{\qquad}$

$3\frac{1}{2} \div \frac{3}{4} = \underline{\qquad}$

$= \underline{\qquad}$

$= \underline{\qquad} = \underline{\qquad}$

$1\frac{7}{8} \div \frac{3}{10} = \underline{\qquad}$

$= \underline{\qquad}$

$= \underline{\qquad} = \underline{\qquad}$

$5\frac{3}{7} \div \frac{1}{7} = \underline{\qquad}$

$= \underline{\qquad}$

$= \underline{\qquad} = \underline{\qquad}$

See if you can do this hard one.

$1\frac{4}{5} \div 3\frac{1}{3} = \underline{\qquad}$

$= \underline{\qquad}$

$= \underline{\qquad}$

$6 \times \underline{\qquad} = 42$
$42 \div \underline{\qquad} = 6$

$.8 \times \underline{\qquad} = 1.6$
$1.6 \div \underline{\qquad} = .8$

$\underline{\qquad} \times 5 = 3.0$
$3.0 \div 5 = \underline{\qquad}$

$.3 \times \underline{\qquad} = .24$
$.24 \div \underline{\qquad} = .3$

$\underline{\qquad} \times 8 = 40$
$40 \div 8 = \underline{\qquad}$

$3 \times \underline{\qquad} = 1.5$
$1.5 \div \underline{\qquad} = 3$

$.8 \times .4 = \underline{\qquad}$
$\underline{\qquad} \div .4 = .8$

$4 \times .06 = \underline{\qquad}$
$\underline{\qquad} \div .06 = 4$

$2 \times 9 = \underline{\qquad}$
$\underline{\qquad} \div 9 = 2$

$.4 \times 7 = \underline{\qquad}$
$\underline{\qquad} \div 7 = .4$

$\underline{\qquad} \times .5 = .45$
$.45 \div .5 = \underline{\qquad}$

$\underline{\qquad} \times .9 = .63$
$.63 \div .9 = \underline{\qquad}$

$34.9 \times \underline{\qquad} = 349$
$5.81 \times \underline{\qquad} = 581$
$.29 \times \underline{\qquad} = 29$

$.506 \times \underline{\qquad} = 506$
$.3 \times \underline{\qquad} = 30$
$.04 \times \underline{\qquad} = 4$

$.007 \times \underline{\qquad} = 7$
$2.05 \times \underline{\qquad} = 205$
$.08 \times \underline{\qquad} = 80$

$$24.8 \div .4 = \frac{24.8}{.4} \times \frac{10}{10}$$
$$= \frac{248}{4} = 62$$

$24.5 \div .7 = \frac{24.5}{.7} \times \frac{\quad}{\quad} = \underline{\qquad} = \underline{\qquad}$

$44.4 \div .6 = \frac{\quad}{\quad} \times \frac{10}{10} = \underline{\qquad} = \underline{\qquad}$

$41.3 \div .8 = \frac{\quad}{\quad} \times \frac{\quad}{\quad} = \underline{\qquad} = \underline{\qquad}$

$4.35 \div .05 = \frac{4.35}{.05} \times \frac{\quad}{\quad} = \underline{\qquad} = \underline{\qquad}$

$.343 \div .07 = \frac{\quad}{\quad} \times \frac{\quad}{\quad} = \underline{\qquad} = \underline{\qquad}$

Since $\frac{24.8}{.4} \times \frac{10}{10} = \frac{248}{4}$

$$.4\overline{)24.8} = 4\overline{)248}$$

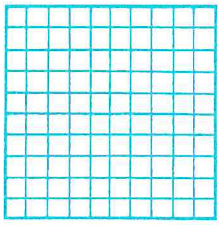
Rewrite so that the divisor is a whole number then divide.

$.8\overline{)44.8}$ or $\overline{)\qquad}$

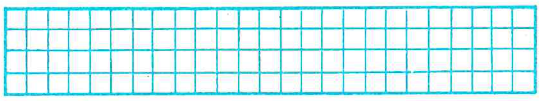
$.5\overline{)4.80}$ or $\overline{)\qquad}$

$.25\overline{)11.75}$ or $\overline{)\qquad}$

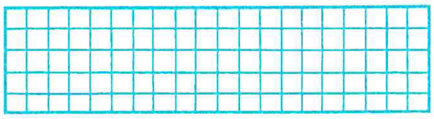
Shade in the number of squares indicated.



$\frac{19}{100} = .19 = 19\%$



$\frac{3}{10} = \frac{30}{100} = .30 = 30\%$



$\frac{3}{4} = \frac{75}{100} = .75 = 75\%$

Rename these fractions.

$\frac{7}{10} \times \frac{\quad}{\quad} = \frac{\quad}{100}$ | $\frac{7}{50} \times \frac{\quad}{\quad} = \frac{\quad}{100}$ | $\frac{2}{5} \times \frac{\quad}{\quad} = \frac{\quad}{100}$ | $\frac{1}{2} \times \frac{\quad}{\quad} = \frac{\quad}{100}$

$\frac{1}{4} \times \frac{\quad}{\quad} = \frac{\quad}{100}$ | $\frac{3}{20} \times \frac{\quad}{\quad} = \frac{\quad}{100}$ | $\frac{9}{25} \times \frac{\quad}{\quad} = \frac{\quad}{100}$ | $\frac{3}{4} \times \frac{\quad}{\quad} = \frac{\quad}{100}$

Complete the chart.

Fractional Form		Decimal	Percent	Fractional Form		Decimal	Percent
simplest	as hundredths			simplest	as hundredths		
$\frac{1}{100}$	$\frac{1}{100}$	.01	1%				50%
$\frac{1}{50}$				$\frac{11}{20}$			
	$\frac{5}{100}$					.6	
		.1		$\frac{3}{4}$			
			15%		$\frac{80}{100}$		
$\frac{1}{5}$						.95	
	$\frac{25}{100}$					1.00	
		.3		$1\frac{1}{2}$			
	$\frac{40}{100}$					2.00	

Rewrite the numbers in order with the smallest value first.

$\frac{3}{5}$ .7 $\frac{62}{100}$ 69% | $\frac{1}{4}$ .3 $\frac{21}{100}$ 27% | 1.2 $\frac{5}{4}$ 119% $\frac{100}{100}$

Simplify.

17 in. = ___ ft. ___ in.
125 min. = ___ hr. ___ min.
23 oz. = ___ lb. ___ oz.
10 ft. = ___ yd. ___ ft.
7 pt. = ___ qt. ___ pt.

99 min. = ___ hr. ___ min.
33 in. = ___ ft. ___ in.
11 qt. = ___ gal. ___ qt.
50 oz. = ___ lb. ___ oz.
21 ft. = ___ yd. ___ ft.

359 sec. = ___ min. ___ sec.
77 in. = ___ yd. ___ in.
25 pt. = ___ gal. ___ pt.
180 min. = ___ hr. ___ min.
33 oz. = ___ lb. ___ oz.

Find the products. Simplify answers.

3 ft. 7 in.
×5
15 ft. ___ in. = ___ ft. ___ in.

2 lb. 8 oz.
×4

8 min. 14 sec.
×5

2 yd. 1 ft. 8 in.
×5
___ yd. ___ ft. ___ in.
= 10 yd. 8 ft. ___ in.
= ___ yd. 2 ft. ___ in.

2 hr. 45 min.
×6
___ hr. ___ min. = ___ hr. ___ min.

3 yd. 2 ft.
×4

5 gal. 2 qt.
×3

1 hr. 41 min. 20 sec.
×4
___ hr. ___ min. ___ sec.
= 4 hr. 165 min. ___ sec.
= ___ hr. 45 min. ___ sec.

Find the quotients. Simplify answers.

12 ft. 8 in. ÷ 4 = 3 ft. ___ in.
8 hr. 36 min. ÷ 2 = ___

6 gal. 3 qt. ÷ 3 = ___ gal. ___ qt.
18 lb. 12 oz. ÷ 6 = ___

1 lb. 6 oz.
5)6 lb. 16+ 14 oz. or 5)5 lb. 30 oz.
(1 lb. 6 oz.)

hr. min.
7)8 hr. 17 min. or 7)___ hr. ___ min.
(hr. min.)

8)11 ft. 4 in. or 8)___ ft. ___ in.

6)8 gal. 4 qt. or 6)___ gal. ___ qt.

Let's invent a new operation besides +, −, ×, and ÷.
We will call it ☆. When we use ☆, here is what happens.

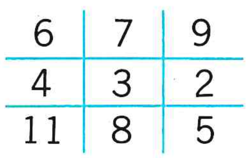
2 ☆ 4 = 3   9 ☆ 3 = 6
3 ☆ 7 = 5   10 ☆ 8 = 9

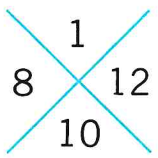
Try to complete these.

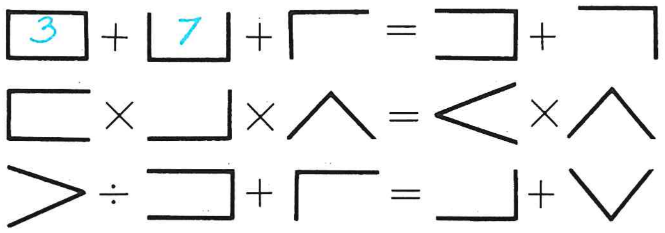
4 ☆ 10 = ☐   6 ☆ 0 = ☐   3 ☆ 9 = ☐
2 ☆ 8 = ☐   5 ☆ 7 = ☐   2 ☆ 3 = ☐

Explain the ☆ operation. ______

Try to figure out the code below and fill in.

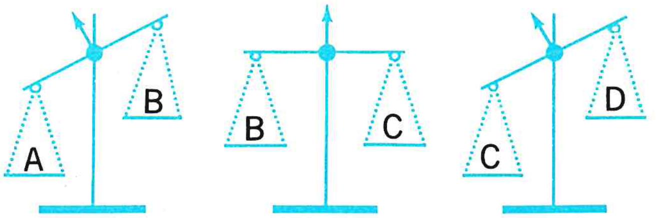






What can be said about weights A, B, C, D on the scales?
Complete the following sentences.
Write heavier than, equal to, or lighter than.

A ______ B   A ______ C
B ______ C   D ______ A
D ______ C   B ______ D



Complete the table.

☐	1	2	5	7		15	21	
△	1	3	9		19	29		47

Secret message.   1 = A, 2 = B, 3 = C, and so forth, Y = 25, Z = 26.

Write the letter which corresponds to the code.

$63 \div 9$ ______ 5×3 ______ $9 + 6$ ______ $\frac{4}{5} \div \frac{1}{5}$ ______ $7\frac{2}{3} \times 3$ ______ $12 \div \frac{4}{5}$ ______ $12 \times 1\frac{1}{2}$ ______ $\frac{1}{5}$ of 55 ______

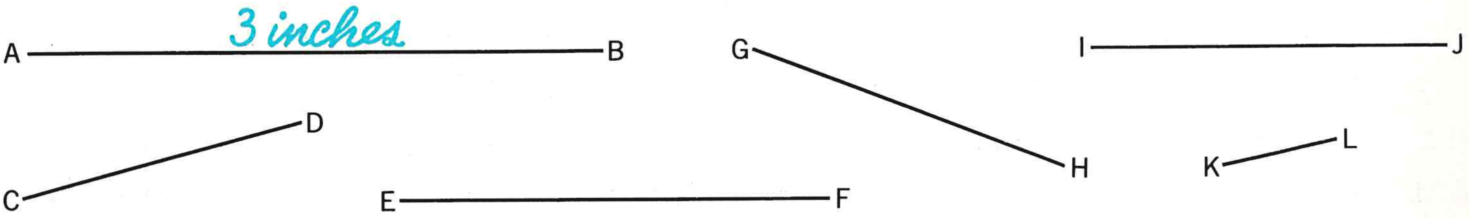
Draw a ring around the items used to measure length.

cup ruler scale yardstick clock
folding rule tape measure thermometer
calendar meter stick watch spoon

Draw a ring around the units of measurement for length.

inch ounce hour pound foot
yard day quart meter gallon
minute degree pint acre mile

Use a ruler to measure these line segments.



3 inches

Use the map to find the following distances in miles.

John's house to the movies

____

John's house to the stores

____

Rita's house to John's house

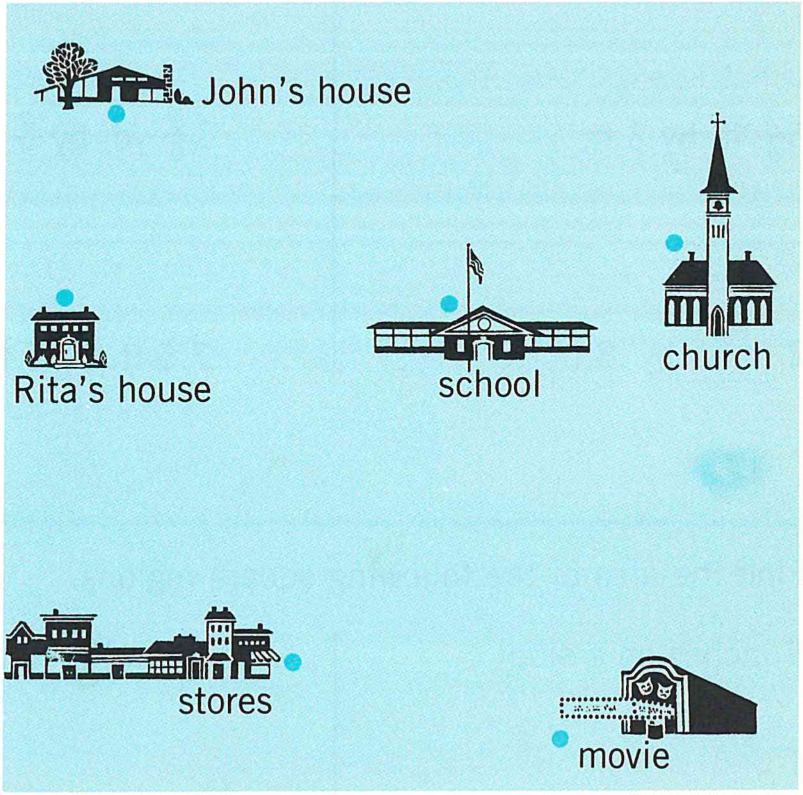
____

John's house to church

____

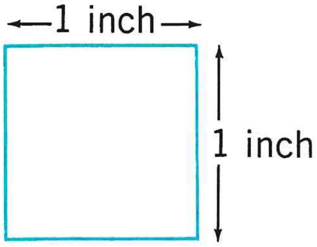
Rita's house to school

____



scale: 1 inch $= \frac{1}{4}$ mile

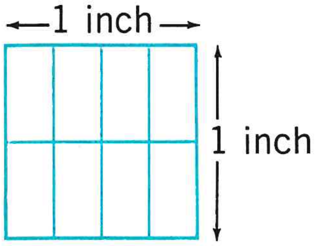
Measurement / Scale drawing



What is the area of the square region on the left? ____________________

Write the formula for finding the area of a rectangular region. ________________________

What is the area of a rectangular region which is 6 inches long and 4 inches wide? ____________



In the square on the left, shade the region which is $\frac{1}{2}$ inch by $\frac{3}{4}$ inch.

What is the area of the shaded region? __________

Find the area of the following regions.

$\frac{1}{2}$ ft. by $\frac{1}{3}$ ft.

4 ft. by 7 ft.

$5\frac{3}{4}$ ft. by 3 ft.

2 miles by .8 miles

$\frac{1}{4}$ yd. by $\frac{3}{4}$ yd.

$\frac{5}{6}$ yd. by 3 yd.

$1\frac{5}{6}$ yd. by $\frac{2}{3}$ yd.

7.5 ft. by 5 ft.

$\frac{2}{3}''$ by $\frac{3}{4}''$

$\frac{2}{5}$ mile by $\frac{3}{4}$ mile

$3\frac{1}{2}$ ft. by $1\frac{3}{5}$ ft.

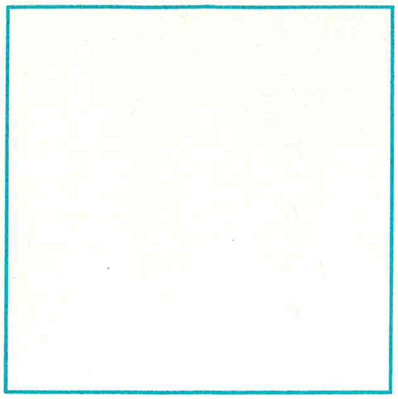
.6 km. by .3 km.

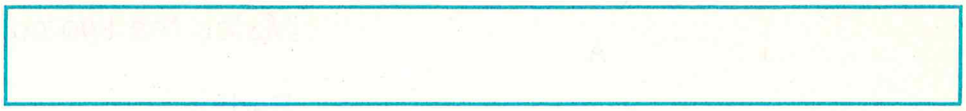
Find the area of the following square regions.

8 inches on a side

$\frac{1}{2}$ foot on a side

$\frac{5}{6}$ yard on a side



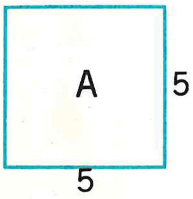


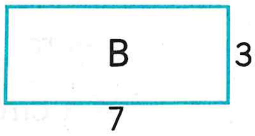
Without measuring, which figure seems to have the greater area? ____________________

Without measuring, which figure seems to have the greater perimeter? ____________________

With a ruler, measure the sides of the square and the rectangle above.

Figure	Dimensions	Area	Perimeter
square			
rectangle			





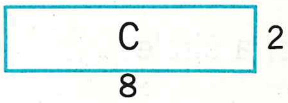
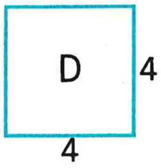
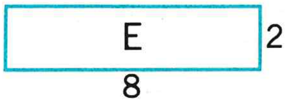


Figure	Dimensions	Area	Perimeter
A			
B			
C			

What do you notice about the areas and perimeters of the 3 figures?

____





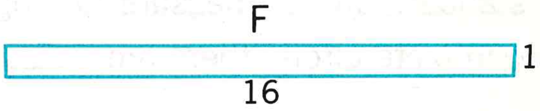
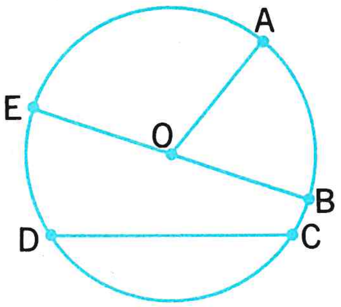


Figure	Dimensions	Area	Perimeter
D			
E			
F			

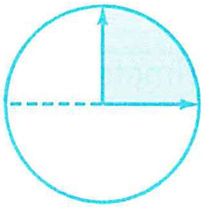
What do you notice about the areas and perimeters of the 3 figures?

____



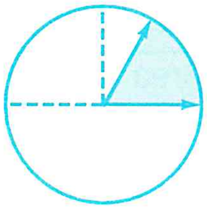
Match the two columns.

Radius	EOB
Diameter	CD
Arc	OA
Chord	AOB
Central angle	AB



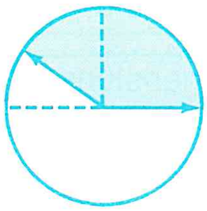
________ angle

$\frac{1}{4}$ of a circle



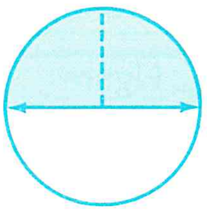
________ angle

less than $\frac{1}{4}$ of a circle



________ angle

greater than $\frac{1}{4}$ of a circle less than $\frac{1}{2}$ of a circle



________ angle

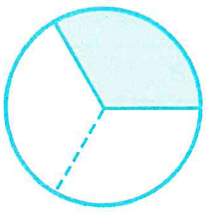
$\frac{1}{2}$ of a circle

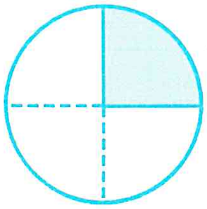
List several units of measure for each of the following:

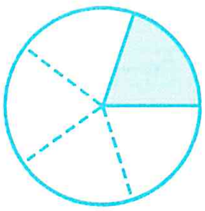
Length	Weight	Time	Liquid	Area

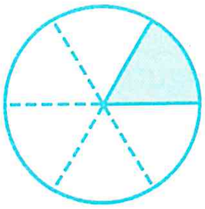
The standard unit of measure for angles is a __________.

In a complete circle, there are ________ degrees.



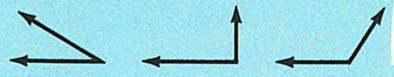


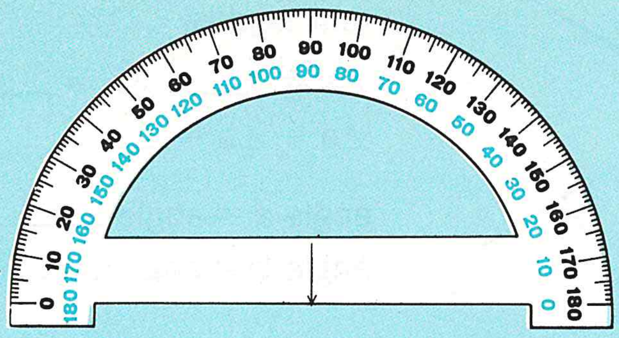




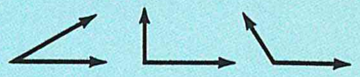
Fractional part	________	________	________	________
Kind of angle	________	________	________	________
Number of degrees	________	________	________	________

The upper numbers are used to measure angles which are open on the left side such as:

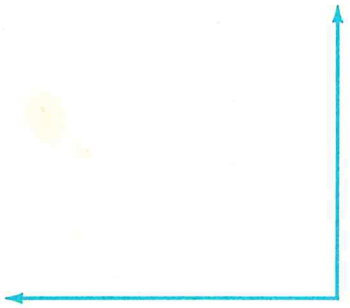


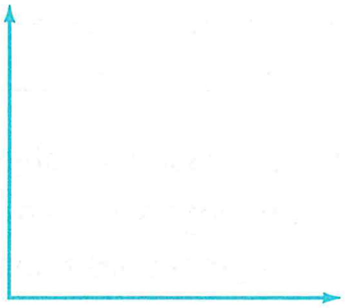


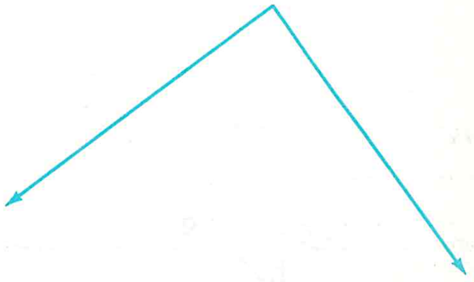
The lower numbers are used to measure angles which are open on the right side such as:

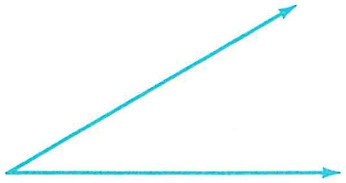


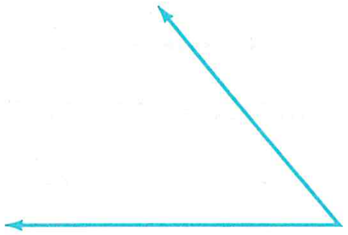
Indicate the measure of each angle.

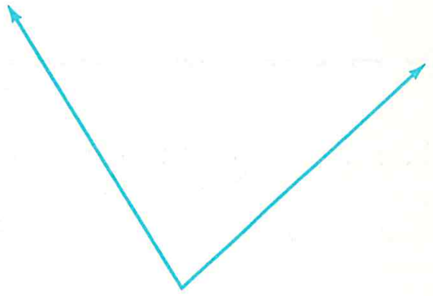


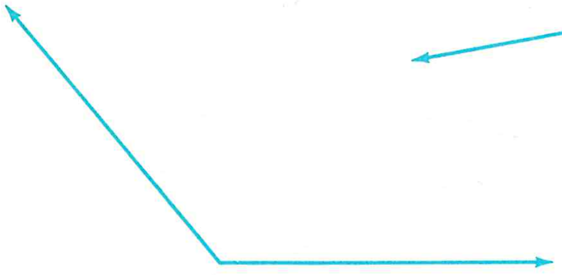


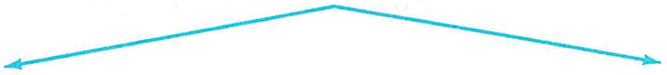


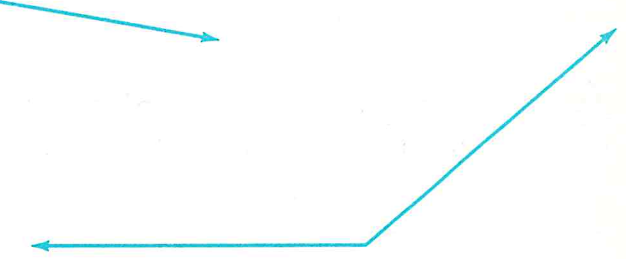






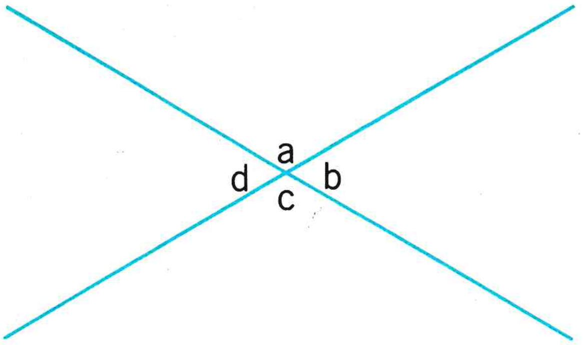






Draw an angle of 40°.

Draw an angle of 120°.



With a protractor measure all four angles.

∠a = ____ ∠b = ____ ∠c = ____ ∠d = ____

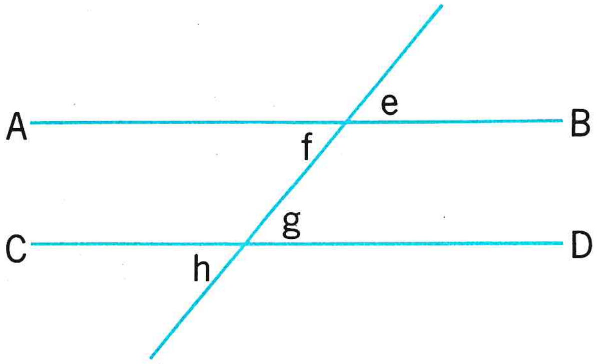
∠a + ∠b = ____ ∠b + ∠c = ____

angle a = angle ____

angle b = angle ____

Angles a and c are called ________ angles.

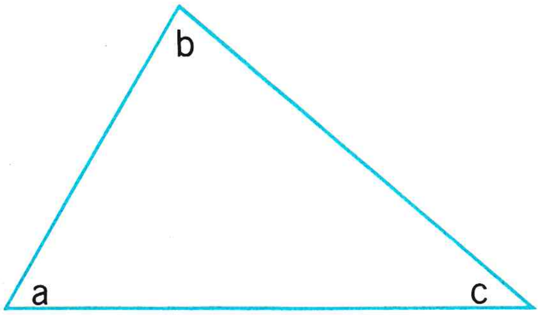
Angles b and d are called ________ angles.



Line segments AB and CD are parallel.

∠e = ____ ∠f = ____ ∠g = ____ ∠h = ____

If the measure of angle f is equal to the measure of angle g, then line segment AB must ____________ line segment CD.



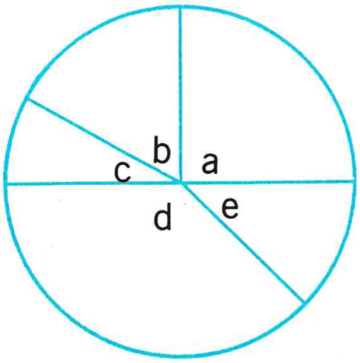
Measure the angles in the triangle.

∠a = ____ ∠b = ____ ∠c = ____

What kind of angle is formed by the sum of the measures of the 3 angles?

____

In any triangle the sum of the measures of the 3 angles is ____ degrees.



∠a = ____ degrees

∠b = ____ degrees

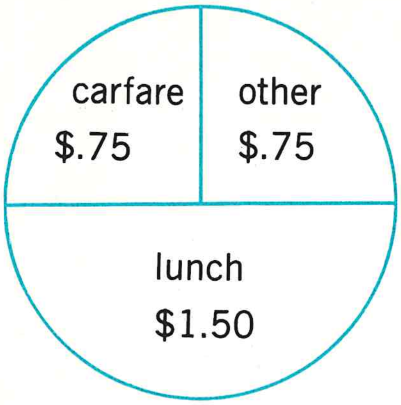
∠c = ____ degrees

∠d = ____ degrees

∠e = ____ degrees

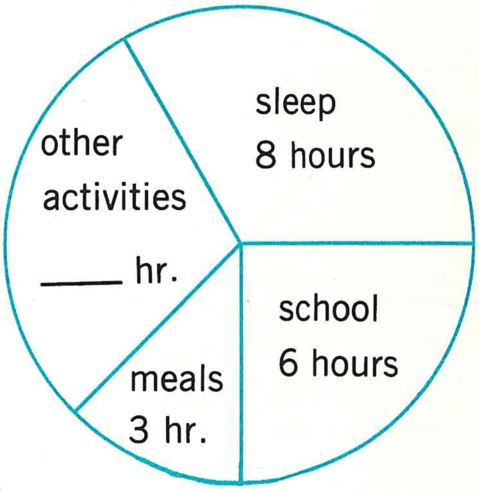
∠a + ∠b + ∠c + ∠d + ∠e = ____ degrees

The circle graph shows how Lucie spends her weekly allowance.

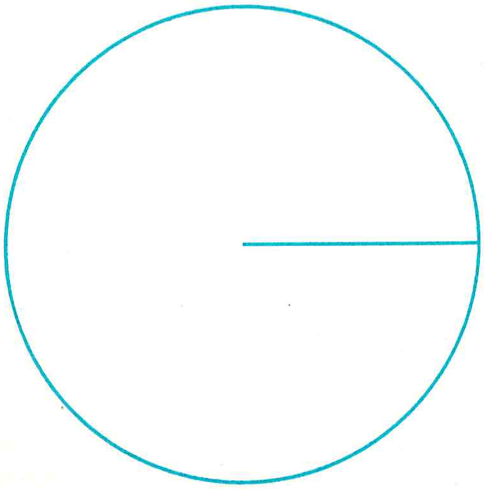


How much is Lucie's weekly allowance? ______
How much does she spend for lunch? ______
What part of her weekly allowance is this? _____
How much does she spend for carfare? ______
What part of her weekly allowance is this? ______
How much does she spend for other items? ______

Tom's average day is spent as shown in this graph.



How many hours does Tom spend in other activities? ____________
What part of the day is spent in school? ______
How many degrees are in this central angle? ____________
What part of the day does Tom use to eat his meals? ____________
How many degrees are in this central angle? ____________
In what activity does Tom spend most of his time? ____________
What part of day? ____________
How many degrees are in this central angle? ____________



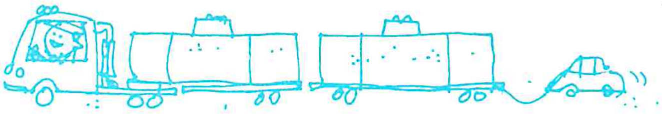
Ann receives a weekly allowance which she spends in the following way.

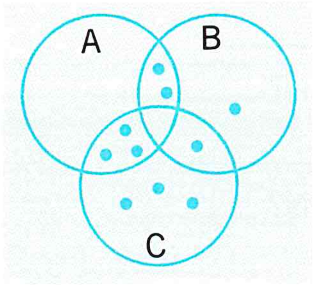
$2.00	for lunch
1.00	for car fare
.50	for candy and soda
.50	for other items

How much is Ann's weekly allowance? ______

In the circle at the left, complete the graph to show how Ann spends her weekly allowance.

Testing





Write how many dots there are in

A ____
$A \cup B$ ____
$A \cap B$ ____

B ____
$A \cup C$ ____
$A \cap C$ ____

C ____
$B \cup C$ ____
$B \cap C$ ____

$A \cup B \cup C$ ____
$A \cap B \cap C$ ____

$$\begin{array}{r} 3281 \\ 407 \\ 623 \\ \underline{1549} \end{array} \qquad \begin{array}{r} 681 \\ 3825 \\ 479 \\ \underline{5230} \end{array} \qquad \begin{array}{r} 18426 \\ \underline{-16734} \end{array} \qquad \begin{array}{r} 10000 \\ \underline{-6439} \end{array}$$

$$\begin{array}{r} 524 \\ \underline{\times 361} \end{array} \qquad \begin{array}{r} 809 \\ \underline{\times 417} \end{array} \qquad 73\overline{)3017} \qquad 216\overline{)5413}$$

Arrange in order with the smallest value first.

$\frac{1}{4}$ .28 $\frac{3}{10}$ 24%

2^3 $2+3$ 32 3^2 23 2×3

.05 55% 5.0 $\frac{1}{5}$

Fill in the blank with sometimes, always, or never.

Multiples of 6 are ____________ even numbers.
Multiples of 5 are ____________ even numbers.
Multiples of 8 are ____________ odd numbers.

Complete.

$0 + 6 =$ ____
$0 \times 6 =$ ____

$6 - 0 =$ ____
$6 - 6 =$ ____

$6 \times 0 =$ ____
$0 \div 6 =$ ____

$6 \div 6 =$ ____
$6 \div 0 =$ ____

Ring the prime numbers.

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Fill in the missing factors.

$\square \times \bigcirc = 18$
$\bigcirc \times \square = 18$
$\square \times \bigcirc = 18$

$\square \times \bigcirc = 45$
$\bigcirc \times \square = 45$
$\square \times \bigcirc = 45$

$\square \times \bigcirc = 105$
$\bigcirc \times \square = 105$
$\square \times \bigcirc = 105$
$\bigcirc \times \square = 105$

Write all of the prime factors.

18 = ____________
16 = ____________

45 = ____________
72 = ____________

Find the greatest common factor (G.C.F.) and the least common denominator (L.C.D.).

12, 15 G.C.F. = _____ L.C.D. = _____
18, 30 G.C.F. = _____ L.C.D. = _____

Find the area and the perimeter of a rectangle which is 6 ft. long and 3 ft. wide.

A = __________ P = __________

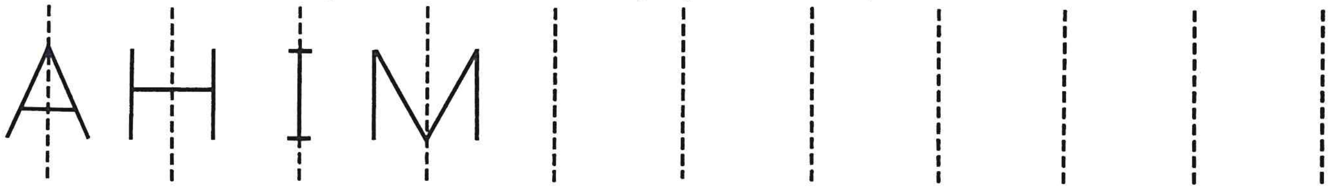
$$\begin{array}{r} 2\frac{5}{12} \\ +\,3\frac{11}{12} \\ \hline \end{array} \qquad \begin{array}{r} 3\frac{1}{3} \\ +\,7\frac{5}{6} \\ \hline \end{array} \qquad \begin{array}{r} 29\frac{7}{12} \\ -\,16\frac{5}{12} \\ \hline \end{array} \qquad \begin{array}{r} 34\frac{1}{4} \\ -\,17\frac{3}{5} \\ \hline \end{array}$$

$\frac{6}{7}$ of $\frac{3}{4}$ = _____ $2\frac{1}{2} \times 3\frac{2}{5} =$ _____ $\frac{9}{10} \div \frac{3}{5} =$ _____ $\frac{3}{4} \div \frac{3}{7} =$ _____

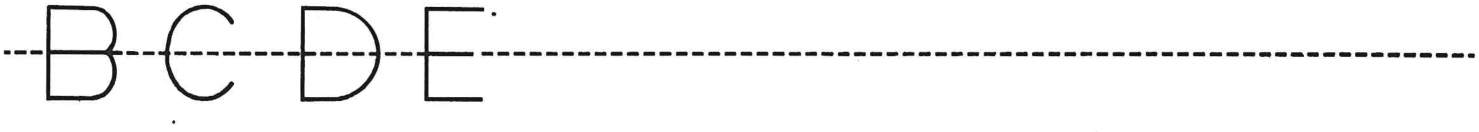
Place the decimal point:

$.16 \div .4 = 4$
$.6 \times 7 = 4\ 2$
$2.35 \div 5 = 4\ 7$
$25 \times .04 = 1\ 0\ 0$
$62.4 \div .8 = 7\ 8$

Some letters of the alphabet are vertically symmetrical, such as:

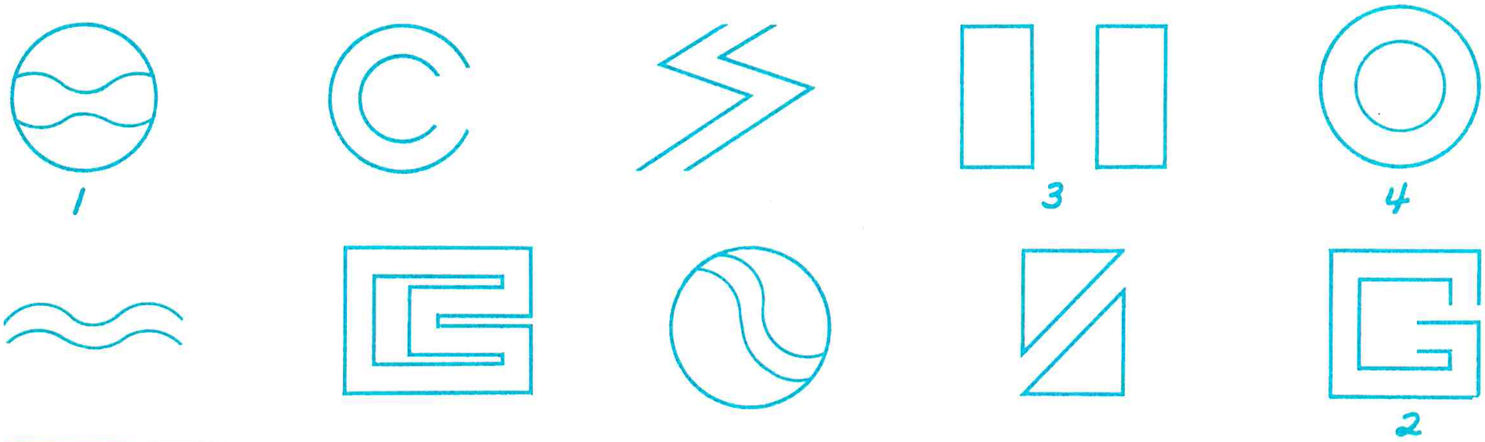


and some letters are horizontally symmetrical, such as:

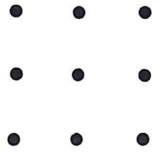


Find the rest of the letters that are symmetrical and group them with the letters above.

These figures belong to 4 different groups.
Label each figure according to the group to which it belongs.



Without lifting your pencil from the paper, connect all the dots with four straight line segments.



Try to find the value of the letters.

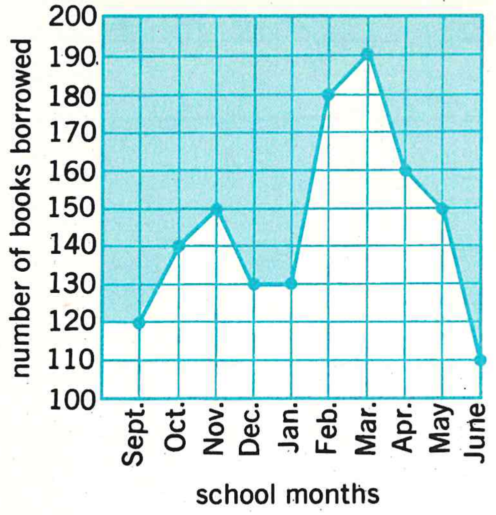
A34
B201
4C0
+ 210D
8498

A = ____
B = ____
C = ____
D = ____

1E600
32F
12G1
+ H77
16352

E = ____
F = ____
G = ____
H = ____

Books Borrowed from the Library



What do the numbers on the left side represent? ______________________________

How many books were borrowed in Nov.? ____________

During what month were most books borrowed? ____________ How many? ____________

Which month had the greatest increase over the month before? ______________________

What do the numbers at the bottom of the graph represent? ______________________

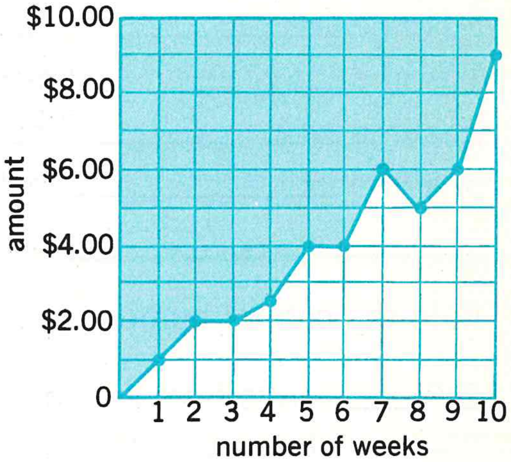
How much did Tim save in 10 weeks? ____________

When did Tim withdraw money from the bank? ____________ How much was withdrawn? ____________

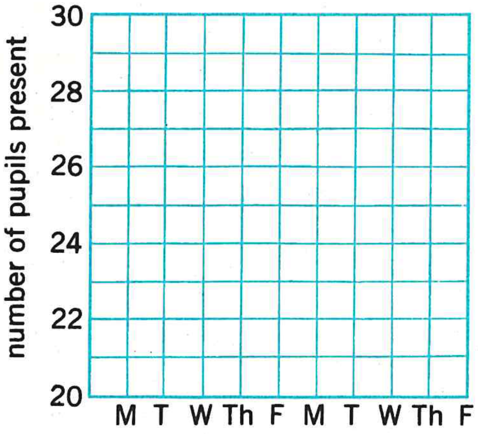
When did Tim first have $4.00 in the bank? ____________

How much did Tim deposit in the 10th week? ____________

Growth of Tim's Bank Account



Number of Pupils Present In Class During Two-Week Period



Plot the points on the graph correctly.
Connect the consecutive points with line segments.

	M	T	W	Th	F
First week	23	29	26	27	30
Second week	29	27	28	28	24

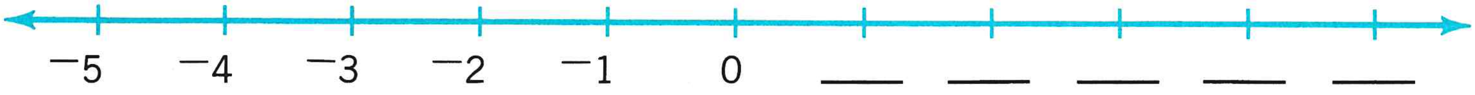
On which day were most pupils present?

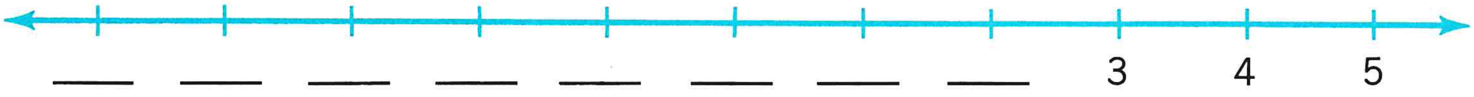
____

On which day were most pupils absent?

____

Were the same children absent on Wed. and Thur. of the second week? ____________





When counting from left to right, the direction is ______________.
When counting from right to left, the direction is ______________.

Write the word positive or negative.

$^{+}1$ is in a ______________ direction from 0.
$^{+}3$ is in a ______________ direction from $^{-}1$.
$^{+}2$ is in a ______________ direction from $^{+}4$.
$^{-}1$ is in a ______________ direction from 0.
$^{-}3$ is in a ______________ direction from $^{-}4$.
$^{-}5$ is in a ______________ direction from $^{-}4$.

Fill in the correct numeral and the word positive or negative.

$^{+}2$ is _____ units from 0 in a ______________ direction.
$^{-}2$ is _____ units from 0 in a ______________ direction.
$^{-}4$ is _____ units from 0 in a ______________ direction.
$^{+}4$ is _____ units from 0 in a ______________ direction.
$^{+}5$ is _____ units from 0 in a ______________ direction.
$^{-}5$ is _____ units from 0 in a ______________ direction.

$^{+}1$ is the opposite of ______ from 0.
$^{+}2$ is the opposite of ______ from 0.
$^{-}5$ is the opposite of ______ from 0.

$^{+}6$ is the opposite of ______ from 0.
$^{-}4$ is the opposite of ______ from 0.
$^{-}10$ is the opposite of ______ from 0.

Write $>$ or $<$.

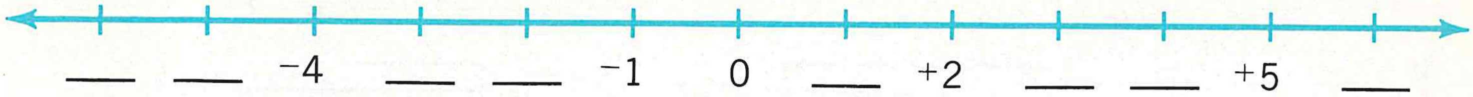
$^{+}3$ ________ $^{+}2$
$^{-}2$ ________ $^{+}1$
0 ________ $^{-}2$

$^{-}1$ ________ $^{-}3$
$^{+}4$ ________ $^{+}5$
$^{+}2$ ________ $^{-}4$

$^{+}1$ ________ 0
$^{+}4$ ________ $^{-}7$
0 ________ $^{+}6$

$^{-}3$ ________ $^{+}1$
$^{-}4$ ________ 0
$^{-}7$ ________ $^{-}4$

Complete.



If $^{+}4$ represents 4 steps up, what does $^{-}4$ represent? ____________

If $^{+}5$ represents a deposit of \$5, what does $^{-}5$ represent? ____________

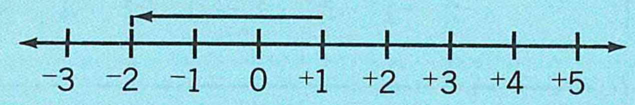
If $^{+}8$ represents 8 steps to the right, what does $^{-}8$ represent? ____________

If $^{-}3$ represents 3 degrees below zero, what does $^{+}3$ represent? ____________

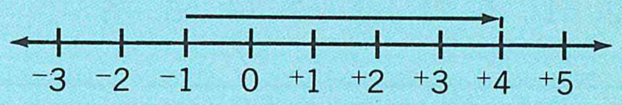
If $^{-}10$ represents a loss of 10 pounds, what does $^{+}10$ represent? ____________

If $^{+}7$ represents a gain of 7 yards, what does $^{-}7$ represent? ____________

Begin at $^{+}1$ move $^{-}3 = {}^{-}2$

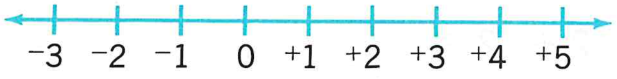


Begin at $^{-}1$ move $^{+}5 = {}^{+}4$

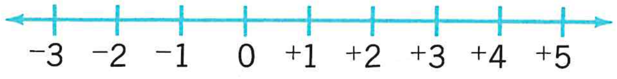


Draw the rays, and write the endpoint.

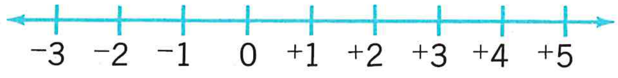
Begin at 0 move $^{+}3 =$ ____



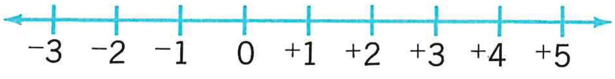
Begin at $^{+}2$ move $^{+}2 =$ ____



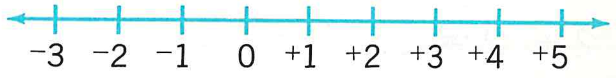
Begin at $^{+}4$ move $^{-}2 =$ ____



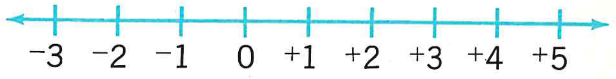
Begin at $^{+}3$ move $^{-}5 =$ ____



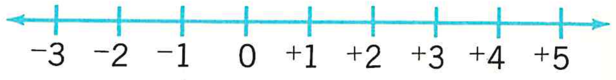
Begin at 0 move $^{-}3 =$ ____



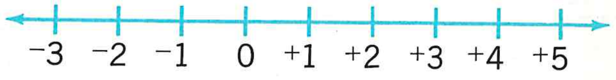
Begin at $^{-}1$ move $^{-}2 =$ ____



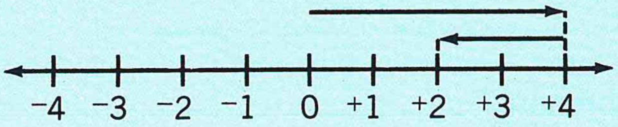
Begin at $^{-}3$ move $^{+}6 =$ ____



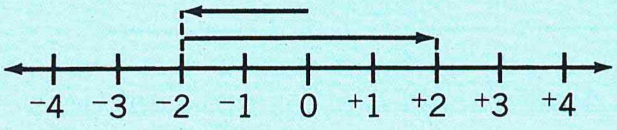
Begin at $^{-}3$ move $^{+}2 =$ ____



$^{+}4 + ^{-}2 = ^{+}2$

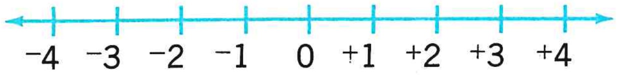


$^{-}2 + ^{+}4 = ^{+}2$

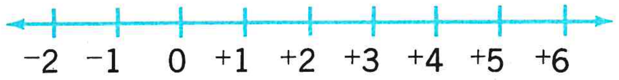


Use the number lines to find the sums.

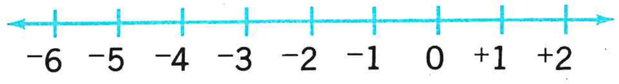
$^{-}4 + ^{+}2 =$ ____



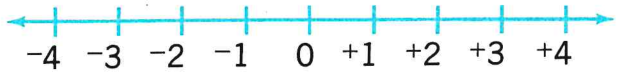
$^{+}4 + ^{+}2 =$ ____



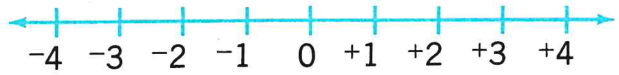
$^{-}4 + ^{-}2 =$ ____



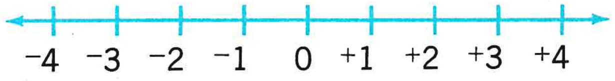
$^{+}2 + ^{-}2 =$ ____



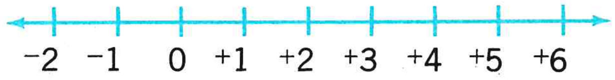
$^{+}4 + ^{-}4 =$ ____



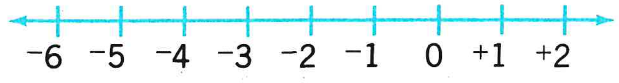
$^{+}2 + ^{-}4 =$ ____



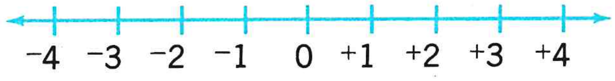
$^{+}2 + ^{+}4 =$ ____



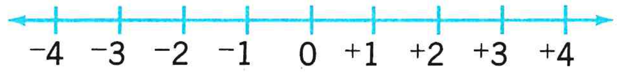
$^{-}2 + ^{-}4 =$ ____



$^{-}2 + ^{+}2 =$ ____



$^{-}4 + ^{+}4 =$ ____

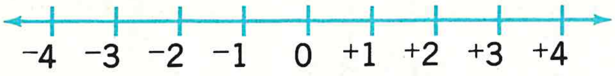


Find the sums.

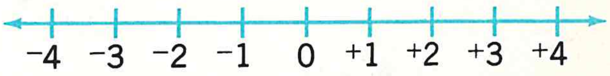
$\begin{array}{r} ^{+}4 \\ \underline{^{-}2} \end{array}$ $\quad$ $\begin{array}{r} ^{-}2 \\ \underline{^{+}4} \end{array}$ $\quad$ $\begin{array}{r} ^{-}4 \\ \underline{^{+}2} \end{array}$ $\quad$ $\begin{array}{r} ^{-}2 \\ \underline{^{+}4} \end{array}$ $\quad$ $\begin{array}{r} ^{+}4 \\ \underline{^{+}2} \end{array}$ $\quad$ $\begin{array}{r} ^{+}2 \\ \underline{^{+}4} \end{array}$

Use the number lines to find the sums.

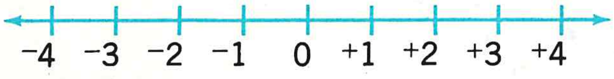
$^{+}1+{}^{+}2=\underline{\qquad}$



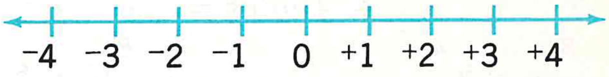
$^{-}1+{}^{-}2=\underline{\qquad}$



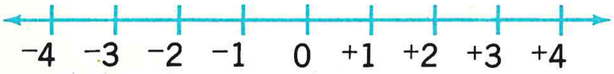
$^{-}2+{}^{+}5=\underline{\qquad}$



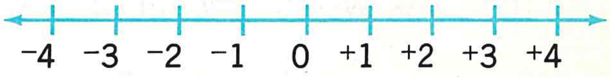
$^{-}3+{}^{+}2=\underline{\qquad}$



$^{+}3+{}^{-}6=\underline{\qquad}$



$^{-}2+{}^{+}6=\underline{\qquad}$



Add.

$^{+}2+{}^{+}4=\underline{\qquad}$
$^{+}6+{}^{-}4=\underline{\qquad}$
$^{+}5+{}^{-}8=\underline{\qquad}$
$^{+}3+{}^{-}3=\underline{\qquad}$
$^{+}5+0=\underline{\qquad}$
$^{-}3+{}^{-}6=\underline{\qquad}$

$^{-}4+{}^{+}3=\underline{\qquad}$
$^{-}4+{}^{+}8=\underline{\qquad}$
$^{-}7+{}^{+}7=\underline{\qquad}$
$0+{}^{-}5=\underline{\qquad}$
$^{+}13+{}^{+}12=\underline{\qquad}$
$^{-}18+{}^{-}8=\underline{\qquad}$

$^{+}25+{}^{-}10=\underline{\qquad}$
$^{-}21+{}^{+}21=\underline{\qquad}$
$0+{}^{+}15=\underline{\qquad}$
$^{+}6+\underline{\qquad}={}^{+}9$
$^{-}4+\underline{\qquad}={}^{-}8$
$^{+}3+\underline{\qquad}={}^{+}1$

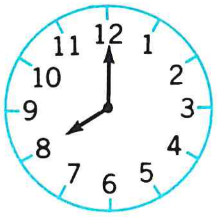
$^{-}5+\underline{\qquad}={}^{-}2$
$^{-}6+\underline{\qquad}=0$
$\underline{\qquad}+{}^{-}9={}^{-}9$
$\underline{\qquad}+{}^{-}8={}^{-}13$
$\underline{\qquad}+{}^{+}12={}^{+}20$
$\underline{\qquad}+{}^{+}13={}^{+}4$

Find the sums.

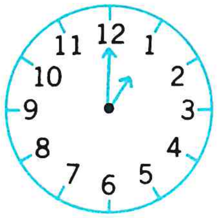
$$\begin{array}{r} ^{+}6 \\ \underline{^{+}6} \end{array} \qquad \begin{array}{r} ^{-}6 \\ \underline{^{-}6} \end{array} \qquad \begin{array}{r} ^{+}6 \\ \underline{^{-}4} \end{array} \qquad \begin{array}{r} ^{-}4 \\ \underline{^{+}6} \end{array} \qquad \begin{array}{r} ^{-}6 \\ \underline{^{+}4} \end{array} \qquad \begin{array}{r} ^{+}4 \\ \underline{^{-}6} \end{array}$$

$$\begin{array}{r} ^{+}6 \\ \underline{^{-}6} \end{array} \qquad \begin{array}{r} ^{+}9 \\ \underline{^{-}2} \end{array} \qquad \begin{array}{r} ^{-}8 \\ \underline{^{-}5} \end{array} \qquad \begin{array}{r} ^{+}4 \\ \underline{^{-}7} \end{array} \qquad \begin{array}{r} ^{+}2 \\ \underline{^{-}8} \end{array} \qquad \begin{array}{r} ^{-}7 \\ \underline{^{-}5} \end{array}$$

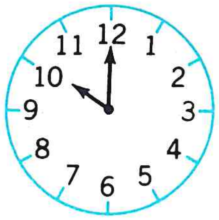
$$\begin{array}{r} ^{+}6 \\ \underline{^{+}9} \end{array} \qquad \begin{array}{r} ^{-}6 \\ \underline{^{+}8} \end{array} \qquad \begin{array}{r} ^{+}18 \\ \underline{^{+}17} \end{array} \qquad \begin{array}{r} ^{-}10 \\ \underline{^{+}16} \end{array} \qquad \begin{array}{r} ^{-}25 \\ \underline{^{-}15} \end{array} \qquad \begin{array}{r} ^{+}15 \\ \underline{^{-}29} \end{array}$$



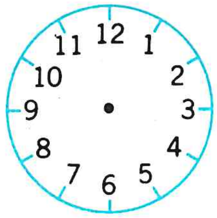
+ 5 hours =



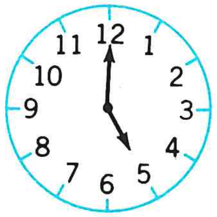
8 + 5 = ____



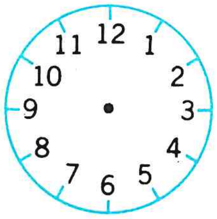
+ 8 hours =



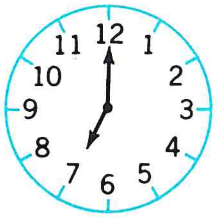
10 + 8 = ____



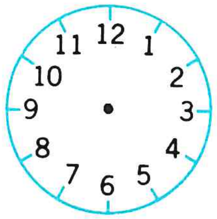
+ 9 hours =



5 + 9 = ____



+ 10 hours =



7 + 10 = ____

Use the clock system (modulo 12) above to find the answers.

7 + 2 = ____
5 + 10 = ____
4 + 9 = ____
8 + 5 = ____

2 + 7 = ____
10 + 5 = ____
9 + 4 = ____
5 + 8 = ____

10 + 9 = ____
11 + 6 = ____
12 + 4 = ____
8 + 8 = ____

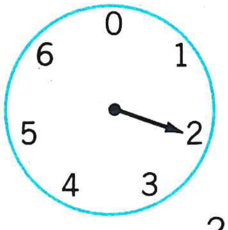
9 + 10 = ____
6 + 11 = ____
4 + 12 = ____
10 + 10 = ____

Is this system commutative? ____________

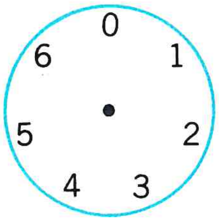
Give an example. ____________________________

Let Sunday = 0
Monday = 1
Tuesday = 2
Wednesday = ____
Thursday = ____
____________ = 5
____________ = 6

If today is Tuesday, what day will it be 6 days from today? ____________



+ 6 =



2 + 6 = ____

Use the clock system (modulo 7) above to find the answers.

5 + 1 = ____
4 + 4 = ____
6 + 3 = ____

2 + 6 = ____
3 + 4 = ____
5 + 5 = ____

2 + 0 = ____
1 + 6 = ____
4 + 2 = ____

5 + 6 = ____
0 + 5 = ____
6 + 6 = ____

What is the identity element in modulo 7? ____

Express the numbers in expanded notation and in exponential form.

$$250.34 = (2 \times \underline{\qquad}) + (\underline{\qquad} \times 10) + (0 \times 1) + (\underline{\qquad} \times \tfrac{1}{10}) + (4 \times \underline{\qquad})$$
$$= (\underline{\qquad} \times 10^2) + (5 \times 10) + (0 \times 1) + (3 \times \underline{\qquad}) + (4 \times \tfrac{1}{10^2})$$

$$638.27 = \underline{\qquad} + \underline{\qquad} + \underline{\qquad} + \underline{\qquad} + \underline{\qquad}$$
$$= \underline{\qquad} + \underline{\qquad} + \underline{\qquad} + \underline{\qquad} + \underline{\qquad}$$

$$402.618 = \underline{\qquad} + \underline{\qquad} + \underline{\qquad} + \underline{\qquad} + \underline{\qquad} + \underline{\qquad}$$
$$= \underline{\qquad} + \underline{\qquad} + \underline{\qquad} + \underline{\qquad} + \underline{\qquad} + \underline{\qquad}$$

Express each number in a simpler way.

$(8 \times 10^2) + (2 \times 10) + (4 \times 1) = \underline{\qquad}$

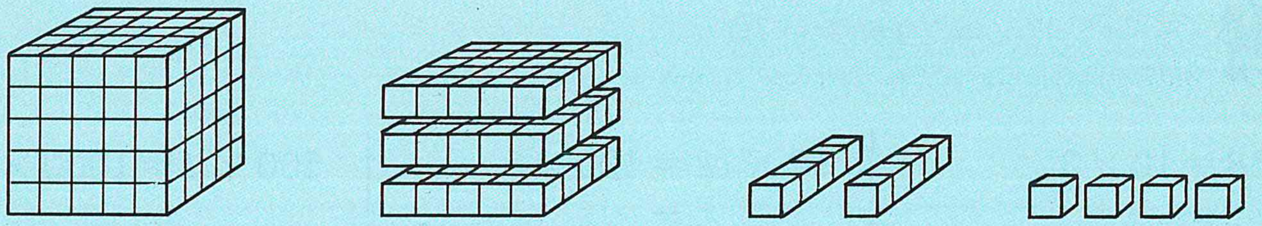
$(1 \times 10^2) + (6 \times 10) = \underline{\qquad}$

$(4 \times 10) + (3 \times 1) + (7 \times \tfrac{1}{10}) = \underline{\qquad}$

$(8 \times 1) + (4 \times \tfrac{1}{10}) + (2 \times \tfrac{1}{10^2}) = \underline{\qquad}$

$(7 \times \tfrac{1}{10}) + (1 \times \tfrac{1}{10^2}) + (3 \times \tfrac{1}{10^3}) = \underline{\qquad}$

$(6 \times 10) + (1 \times 1) + (5 \times \tfrac{1}{10}) = \underline{\qquad}$



$$1324_{\text{five}} = (1 \times 125) + (3 \times 25) + (2 \times 5) + (4 \times 1)$$
$$= 125 + 75 + 10 + 4 = 214$$

Find the decimal numeral.

$$314_{\text{five}} = \underline{\qquad} + \underline{\qquad} + \underline{\qquad}$$
$$= \underline{\qquad} + \underline{\qquad} + \underline{\qquad} = \underline{\qquad}$$

$$2144_{\text{five}} = \underline{\qquad} + \underline{\qquad} + \underline{\qquad} + \underline{\qquad}$$
$$= \underline{\qquad} + \underline{\qquad} + \underline{\qquad} + \underline{\qquad} = \underline{\qquad}$$

$$1023_{\text{five}} = \underline{\qquad} + \underline{\qquad} + \underline{\qquad} + \underline{\qquad}$$
$$= \underline{\qquad} + \underline{\qquad} + \underline{\qquad} + \underline{\qquad} = \underline{\qquad}$$

$$1030_{\text{five}} = \underline{\qquad} + \underline{\qquad} + \underline{\qquad} + \underline{\qquad}$$
$$= \underline{\qquad} + \underline{\qquad} + \underline{\qquad} + \underline{\qquad} = \underline{\qquad}$$

$9 \times 3 = (10 - 1) \times 3 = (10 \times 3) - (1 \times 3)$
$= 30 - 3$
$= 27$

$9 \times 4 = (10 \times 4) - (1 \times 4)$
$= \_\_\_\_ - \_\_\_\_ = \_\_\_\_$

$9 \times 12 = (10 \times \_\_\_\_) - (1 \times \_\_\_\_)$
$= \_\_\_\_ - \_\_\_\_ = \_\_\_\_$

$9 \times 23 = (\_\_\_\_ \times 23) - (\_\_\_\_ \times 23)$
$= \_\_\_\_ - \_\_\_\_ = \_\_\_\_$

$9 \times 48 = (\_\_\_\_ \times 48) - (\_\_\_\_ \times 48)$
$= \_\_\_\_ - \_\_\_\_ = \_\_\_\_$

$99 \times 8 = (100 \times 8) - (1 \times 8)$
$= \_\_\_\_ - \_\_\_\_ = \_\_\_\_$

$99 \times 17 = (100 \times \_\_\_\_) - (1 \times \_\_\_\_)$
$= \_\_\_\_ - \_\_\_\_ = \_\_\_\_$

$99 \times 24 = (\_\_\_\_ \times 24) - (\_\_\_\_ \times 24)$
$= \_\_\_\_ - \_\_\_\_ = \_\_\_\_$

$99 \times 36 = (\_\_\_\_ \times 36) - (\_\_\_\_ \times 36)$
$= \_\_\_\_ - \_\_\_\_ = \_\_\_\_$

$5 \times 14 = (10 \div 2) \times 14$
$= 10 \times (14 \div 2)$
$= 10 \times 7 = 70$

$5 \times 18 = 10 \times 9$
$= \_\_\_\_$

$5 \times 32 = 10 \times \_\_\_\_$
$= \_\_\_\_$

$5 \times 48 = \_\_\_\_ \times 24$
$= \_\_\_\_$

$5 \times 144 = \_\_\_\_ \times \_\_\_\_$
$= \_\_\_\_$

$50 \times 12 = 100 \times 6$
$= \_\_\_\_$

$50 \times 34 = 100 \times \_\_\_\_$
$= \_\_\_\_$

$50 \times 56 = \_\_\_\_ \times 28$
$= \_\_\_\_$

$50 \times 88 = \_\_\_\_ \times \_\_\_\_$
$= \_\_\_\_$

$500 \times 8 = 1000 \times 4$
$= \_\_\_\_$

$500 \times 12 = 1000 \times \_\_\_\_$
$= \_\_\_\_$

$500 \times 36 = \_\_\_\_ \times 18$
$= \_\_\_\_$

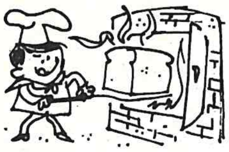
$500 \times 68 = \_\_\_\_ \times \_\_\_\_$
$= \_\_\_\_$

$25 \times 12 = 100 \times (12 \div 4)$
$= 100 \times 3 = \_\_\_\_$

$25 \times 28 = 100 \times (28 \div 4)$
$= 100 \times \_\_\_\_ = \_\_\_\_$

$25 \times 60 = 100 \times (60 \div 4)$
$= 100 \times \_\_\_\_ = \_\_\_\_$

$25 \times 484 = 100 \times (\_\_\_\_ \div 4)$
$= \_\_\_\_ \times \_\_\_\_ = \_\_\_\_$



$$\begin{array}{r|l} 64 & \\ 57\overline{)3679} & \\ 3420 & 60 \\ \hline 259 & \\ 228 & 4 \\ \hline 31 & 64 \end{array}$$

Short form

$$\begin{array}{r} 64 \\ 57\overline{)3679} \\ 342 \\ \hline 259 \\ 228 \\ \hline 31 \end{array}$$

Use the short form to find the quotients. Check the answers.

$57\overline{)689}$

$321\overline{)11877}$

$31\overline{)1318}$

$13\overline{)795}$

$87\overline{)4993}$

$152\overline{)9372}$

Ring the fractions which are names for whole numbers.

$\frac{8}{1}$ $\frac{16}{3}$ $\frac{24}{9}$ $\frac{0}{4}$ $\frac{100}{20}$ $\frac{5}{15}$ $\frac{19}{19}$ $\frac{20}{40}$ $2\frac{8}{4}$

Ring the fractions which can be simplified.

$\frac{5}{6}$ $\frac{10}{15}$ $\frac{11}{12}$ $\frac{14}{56}$ $\frac{25}{300}$ $\frac{10}{99}$ $\frac{8}{71}$ $\frac{19}{5}$ $\frac{0}{7}$

Complete the sequences,

$5\frac{1}{8}$, $5\frac{1}{2}$, $5\frac{7}{8}$, $6\frac{1}{4}$, ____, ____, ____, $7\frac{3}{4}$

$4\frac{3}{8}$, $5\frac{5}{8}$, $6\frac{7}{8}$, ____, ____, $10\frac{5}{8}$, $11\frac{7}{8}$, ____

$2\frac{1}{2}$, ____, ____, ____, $5\frac{5}{6}$, $6\frac{2}{3}$, $7\frac{1}{2}$, $8\frac{1}{3}$

$7\frac{1}{2}$, $6\frac{3}{4}$, 6, $5\frac{1}{4}$, ____, ____, 3, ____, ____

Simplify.

$\frac{4}{6}$ = ____
$\frac{18}{24}$ = ____
$\frac{55}{100}$ = ____

$\frac{7}{42}$ = ____
$\frac{12}{21}$ = ____
$\frac{16}{12}$ = ____

$\frac{17}{6}$ = ____
$\frac{100}{8}$ = ____
$\frac{14}{50}$ = ____

$5\frac{15}{25}$ = ____
$13\frac{10}{4}$ = ____
$26\frac{27}{8}$ = ____

Write $>$, $<$, or $=$.

$\frac{3}{4}$ -------- $\frac{3}{5}$
$\frac{9}{8}$ -------- $\frac{8}{9}$
$\frac{6}{8}$ -------- $\frac{9}{12}$

$\frac{35}{6}$ -------- $5\frac{5}{6}$
$\frac{15}{8}$ -------- $1\frac{3}{4}$
$6\frac{2}{7}$ -------- $\frac{44}{7}$

$\frac{4}{5}$ -------- $\frac{17}{20}$
$1\frac{1}{4}$ -------- $\frac{3}{2}$
$3\frac{1}{3}$ -------- $\frac{20}{6}$

Rewrite the fractions in order with the smallest value first.

$\frac{3}{8}$ $\frac{2}{8}$ $\frac{0}{8}$ $\frac{1}{8}$

$\frac{1}{2}$ $\frac{3}{4}$ $\frac{7}{8}$ $\frac{11}{16}$

$1\frac{5}{3}$ $\frac{15}{3}$ $1\frac{3}{5}$ $\frac{13}{5}$

Ring the prime numbers.

1 4 5 8 9 11 15 18 21 23

Ring the composite numbers.

2 3 6 7 10 12 13 14 17 20

Express each of the numbers as the product of prime factors.

8 = ______________

15 = ______________

18 = ______________

20 = ______________

33 = ______________

35 = ______________

39 = ______________

42 = ______________

75 = ______________

90 = ______________

Complete the chart.

Fraction	Product of primes	A form of 1 × fraction	Equivalent fraction
$\frac{36}{48}$	$\frac{2\times2\times3\times3}{2\times2\times2\times2\times3}$	$\frac{2\times2\times3}{2\times2\times3}\times\frac{3}{2\times2}$	$\frac{3}{4}$
$\frac{10}{40}$	$\frac{2\times5}{2\times2\times2\times5}$	$\frac{2\times5}{2\times5}\times\frac{1}{2\times2}$	$\frac{1}{4}$
$\frac{8}{12}$			
$\frac{15}{20}$			
$\frac{18}{42}$			
$\frac{33}{75}$			

Write each of the fractions as a decimal.

$\frac{41}{100} =$ ________

$\frac{329}{1000} =$ ________

$\frac{736}{100} =$ ________

$\frac{97}{10} =$ ________

$\frac{4063}{1000} =$ ________

$\frac{309}{10} =$ ________

$\frac{1748}{100} =$ ________

$\frac{2569}{10} =$ ________

Rename the fractions as thousandths and as decimals.

$\frac{1}{8} = \frac{\quad}{1000} =$ ______

$\frac{1}{4} = \frac{\quad}{1000} =$ ______

$\frac{1}{200} = \frac{\quad}{1000} =$ ______

$\frac{1}{2} = \frac{\quad}{1000} =$ ______

$\frac{3}{8} = \frac{\quad}{1000} =$ ______

$\frac{5}{8} = \frac{\quad}{1000} =$ ______

Find the sums.

$$\begin{array}{r} \frac{3}{8} \\ \frac{1}{4} \\ \frac{1}{2} \\ \underline{\frac{11}{16}} \end{array} \qquad \begin{array}{r} \frac{5}{6} \\ \frac{3}{4} \\ \frac{2}{3} \\ \underline{\frac{7}{12}} \end{array} \qquad \begin{array}{r} \frac{2}{5} \\ \frac{7}{10} \\ \frac{3}{4} \\ \underline{\frac{1}{2}} \end{array} \qquad \begin{array}{r} \frac{4}{5} \\ \frac{1}{2} \\ \frac{7}{10} \\ \underline{\frac{3}{25}} \end{array}$$

$$\begin{array}{r} 8\frac{1}{4} \\ 7\frac{1}{3} \\ \underline{2\frac{5}{8}} \end{array} \qquad \begin{array}{r} 13\frac{3}{5} \\ 6\frac{1}{2} \\ \underline{10\frac{1}{4}} \end{array} \qquad \begin{array}{r} 24\frac{1}{3} \\ 11\frac{3}{10} \\ \underline{7\frac{5}{6}} \end{array} \qquad \begin{array}{r} 43\frac{4}{9} \\ 21\frac{1}{6} \\ \underline{27\frac{3}{4}} \end{array}$$

A salesgirl in a discount store sold $1\frac{1}{2}$ yards of ribbon to one customer, $2\frac{3}{4}$ yards to another customer, and $1\frac{2}{3}$ yards to a third customer. How many yards of ribbon did she sell altogether? ________

$$\begin{array}{r} 7\frac{5}{8} \\ \underline{-\,2\frac{1}{4}} \end{array} \qquad \begin{array}{r} 12\frac{5}{6} \\ \underline{-\,5\frac{7}{12}} \end{array} \qquad \begin{array}{r} 3\frac{3}{5} \\ \underline{-\,1\frac{1}{2}} \end{array} \qquad \begin{array}{r} 21\frac{8}{9} \\ \underline{-\,10\frac{3}{4}} \end{array}$$

$$\begin{array}{r} 6\frac{1}{3} \\ \underline{-\,2\frac{2}{3}} \end{array} \qquad \begin{array}{r} 15\frac{3}{10} \\ \underline{-\,7\frac{4}{5}} \end{array} \qquad \begin{array}{r} 28\frac{4}{9} \\ \underline{-\,15\frac{1}{2}} \end{array} \qquad \begin{array}{r} 41\frac{1}{6} \\ \underline{-\,29\frac{4}{5}} \end{array}$$

In gym class, John jumped $4\frac{1}{3}$ yards and Felipe jumped $3\frac{3}{4}$ yards. How much farther did John jump than Felipe? ________

$$\frac{8}{15}\times\frac{5}{12}=\frac{40}{180}=\frac{2}{9}$$

Divide by 4.

$\frac{{}^{2}\cancel{8}}{15}\times\frac{5}{\cancel{12}_{3}}$

Divide by 5.

$\frac{{}^{2}\cancel{8}}{{}_{3}\cancel{15}}\times\frac{\cancel{5}^{1}}{\cancel{12}_{3}}$

Now multiply.

$\frac{{}^{2}\cancel{8}}{{}_{3}\cancel{15}}\times\frac{\cancel{5}^{1}}{\cancel{12}_{3}}=\frac{2}{9}$

Find the products.

$\frac{4}{9}\times\frac{3}{8}=$ _____

$\frac{5}{7}\times\frac{14}{15}=$ _____

$\frac{6}{10}\times\frac{5}{12}=$ _____

$\frac{14}{25}\times\frac{5}{8}=$ _____

$\frac{16}{27}\times\frac{9}{20}=$ _____

$\frac{33}{10}\times\frac{35}{11}=$ _____

Find.

$\frac{4}{5}$ of $\frac{15}{16}=$ _____

$\frac{2}{3}$ of $\frac{15}{22}=$ _____

$\frac{5}{11}$ of $\frac{33}{40}=$ _____

$\frac{7}{8}$ of $\frac{9}{28}=$ _____

$\frac{6}{7}$ of $\frac{35}{8}=$ _____

$\frac{8}{15}$ of $\frac{25}{12}=$ _____

$$6\frac{1}{4}\times3\frac{1}{5}=\frac{{}^{5}\cancel{25}}{{}_{1}\cancel{4}}\times\frac{\cancel{16}^{4}}{\cancel{5}_{1}}=\frac{20}{1}=20$$

Multiply.

$4\frac{2}{3}\times2\frac{4}{7}=$ _____ $\times$ _____ $=$ _____

$6\frac{3}{4}\times5\frac{1}{3}=$ _____ $\times$ _____ $=$ _____

$7\frac{1}{2}\times2\frac{2}{3}=$ _____ $\times$ _____ $=$ _____

$9\frac{1}{6}\times3\frac{3}{10}=$ _____ $\times$ _____ $=$ _____

$\frac{{}^{1}\cancel{7}}{9}\times\frac{3}{4}\times\frac{1}{\cancel{7}_{1}}=$ _____

$\frac{5}{6}\times\frac{3}{8}\times\frac{8}{10}=$ _____

$\frac{14}{5}\times\frac{1}{6}\times\frac{15}{7}=$ _____

$\frac{24}{11}\times\frac{3}{8}\times\frac{33}{18}=$ _____

A table in class is $1\frac{5}{9}$ yd. long and $\frac{3}{4}$ yd. wide.

What is the area of the table top? _____ sq. yd.

Divide and fill in.

$\frac{3}{4} \div 1 = \underline{\qquad}$

$\frac{8}{9} \div 1 = \underline{\qquad}$

$\frac{7}{12} \div 1 = \underline{\qquad}$

$0 \div \frac{2}{3} = \underline{\qquad}$

$\frac{10}{21} \div 2 = \underline{\qquad}$

$4 \div 5 = \underline{\qquad}$

$\frac{3}{5} \div \frac{3}{5} = \underline{\qquad}$

$1 \div \frac{2}{5} = \underline{\qquad}$

$1 \div \frac{7}{10} = \underline{\qquad}$

$1 \div \frac{5}{9} = \underline{\qquad}$

$1 \div \frac{8}{3} = \underline{\qquad}$

$2 \div \frac{4}{7} = \underline{\qquad}$

$3 \div \frac{3}{4} = \underline{\qquad}$

$4 \div \frac{7}{9} = \underline{\qquad}$

$\frac{12}{25} \div \frac{3}{5} = \underline{\qquad}$

$\frac{10}{33} \div \frac{2}{3} = \underline{\qquad}$

$\frac{16}{21} \div \frac{4}{3} = \underline{\qquad}$

$\frac{27}{8} \div \frac{3}{8} = \underline{\qquad}$

$\frac{15}{14} \div \frac{5}{7} = \underline{\qquad}$

$0 \div 1\frac{3}{4} = \underline{\qquad}$

$\frac{12}{49} \div \frac{4}{7} = \underline{\qquad}$

$$4\frac{2}{3} \div 1\frac{1}{6} = \frac{14}{3} \div \frac{7}{6} = \frac{14}{3} \times \frac{6}{7} = 4$$

Find the quotients.

$6\frac{3}{4} \div \frac{9}{16} = \underline{\qquad\qquad\qquad} = \underline{\qquad\qquad\qquad} = \underline{\qquad}$

$2\frac{4}{9} \div 3\frac{2}{3} = \underline{\qquad\qquad\qquad} = \underline{\qquad\qquad\qquad} = \underline{\qquad}$

$12\frac{1}{2} \div \frac{5}{12} = \underline{\qquad\qquad\qquad} = \underline{\qquad\qquad\qquad} = \underline{\qquad}$

$\frac{18}{35} \div \frac{9}{25} = \underline{\qquad\qquad\qquad} = \underline{\qquad}$

$5\frac{3}{7} \div 1\frac{5}{14} = \underline{\qquad\qquad\qquad} = \underline{\qquad\qquad\qquad} = \underline{\qquad}$

$3\frac{3}{5} \div \frac{2}{15} = \underline{\qquad\qquad\qquad} = \underline{\qquad\qquad\qquad} = \underline{\qquad}$

In a woodworking shop Jim had a board $3\frac{3}{4}$ feet long.
He wanted to cut it into 3 pieces of equal length.
How long was each piece? $\underline{\qquad\qquad}$

If the area of a rug is 15 square yards and the length is $4\frac{1}{2}$ yards,
what is the width? $\underline{\qquad\qquad}$

Write the number which is
one tenth larger than

.6 ______ 2.4 ______ .9 ______ 4.74 ______ 6.809 ______

one hundredth larger than

.04 ______ .68 ______ .59 ______ 2.315 ______ 4.5 ______

one thousandth larger than

.256 ______ 1.349 ______ .009 ______ .999 ______ 9 ______

Find the sums.

$37.16	67.494	$ 4.39
54.78	17.093	16.54
		9.08
		21.32

$4.25 + $12.83 + $.99 = ______

2.46 + .371 + 15.8 = ______

During one week a salesman drove the following distances: Monday 142.5 miles, Tuesday 73.2 miles, Wednesday 103.1 miles, Thursday 170 miles, Friday 216.1 miles. How many miles did he travel during the week? ______

One month Luis earned $5.17, $8.60, $10.04, and $7.99. How much did he earn altogether? ______

Find the differences.

43.96	$31.67	75.196	$114.00
12.74	19.83	28.358	89.47

On Tuesday Nick rode his bike 8.34 miles while Jack rode his bike 7.58 miles. How much farther did Nick ride than Jack? ______

Find the products.

.7 × 6 = ______
5 × .5 = ______
.6 × .4 = ______
9 × .05 = ______
.1 × .1 = ______

.09 × .08 = ______
6 × .06 = ______
.05 × .07 = ______
7 × .9 = ______
.8 × 5 = ______

.06 × .9 = ______
.2 × .03 = ______
.5 × .4 = ______
.06 × .5 = ______
.08 × .06 = ______

Put the decimal point in the correct place in each product.

4 × 3.6 = 144
.7 × 4.9 = 343
.12 × 7.3 = 876
6.9 × .24 = 1656

.9 × .57 = 513
.13 × .82 = 1066
4 × .236 = 944
.07 × 64.3 = 4501

.23 × 8.4 = 1932
3.2 × .698 = 22336
.25 × 7.76 = 19400
3.12 × 8.79 = 274248

Find the products.

$$\begin{array}{r} 21.5 \\ \times 2.4 \\ \hline \end{array} \qquad \begin{array}{r} \$8.61 \\ \times 32 \\ \hline \end{array} \qquad \begin{array}{r} \$4.75 \\ \times 6.5 \\ \hline \end{array}$$

$$\begin{array}{r} 81.7 \\ \times .48 \\ \hline \end{array} \qquad \begin{array}{r} 70.5 \\ \times 2.9 \\ \hline \end{array} \qquad \begin{array}{r} 50.09 \\ \times .56 \\ \hline \end{array}$$

If Paul earns $1.78 an hour, how much will he earn in 6.5 hours?

____

One meter is equal to 39.37 inches. How many inches are there in 4.7 meters? ______________

What is the area of the interior of a rectangular garden 8.2 meters long and 3.9 meters wide? ______________

Find the quotients.

6.3 ÷ 9 = _____
4.8 ÷ .6 = _____
.28 ÷ 7 = _____
.45 ÷ .5 = _____

.36 ÷ 6 = _____
3.5 ÷ .7 = _____
7.2 ÷ .09 = _____
.036 ÷ 4 = _____

.056 ÷ .8 = _____
40 ÷ .05 = _____
.042 ÷ .06 = _____
.54 ÷ .9 = _____

Put the decimal point in the correct position in each quotient.

94.4 ÷ 4 = 236
4.68 ÷ 9 = 52
61.5 ÷ .5 = 123
1.44 ÷ .8 = 18

2.66 ÷ .07 = 38
34.56 ÷ 8 = 432
1.845 ÷ 4.1 = 45
1.932 ÷ .84 = 23

14.04 ÷ 26 = 54
.3367 ÷ .37 = 91
.0945 ÷ .21 = 45
.42354 ÷ .78 = 543

Rewrite each example so that the divisor is a whole number. Do not divide.

$.7\overline{)34.58}$ = $7\overline{)345.8}$
$.57\overline{)69.54}$ = $\overline{)}$
$.5\overline{)135}$ = $\overline{)}$

$.11\overline{)88}$ = $\overline{)}$
$.09\overline{).0981}$ = $\overline{)}$
$.02\overline{).006}$ = $\overline{)}$

$.015\overline{)1.86}$ = $\overline{)}$
$.052\overline{)7.1}$ = $\overline{)}$
$.123\overline{)87}$ = $\overline{)}$

Find the quotients to the nearest tenth.

$.5\overline{)135}$ $.02\overline{).006}$ $.123\overline{)87}$ $3.1\overline{)16.12}$

$.49\overline{).2487}$ $.25\overline{)1.681}$

A car can travel 15.6 miles on a gallon of gas. How many gallons of gas are needed to travel 131.04 miles? __________

	Multiply by 10	Multiply by 100	Multiply by 1000
.6			
5.1			
.42			
37.6			
9.25			
.708			

To multiply a number by 10, 100, 1000, . . . move the decimal point to the ______ as many places as there are ______ in the multiplier.

Steven went to the store to buy 10 pounds of potatoes at $.08 per pound. How much did the potatoes cost? ______

The school store bought 1000 ballpoint pens for $.13 each. How much did all the pens cost? ______

	Divide by 10	Divide by 100	Divide by 1000
4251			
763			
527.9			
60.32			
8.57			
.8			

To divide by 10, 100, 1000, etc. move the decimal point to the ______ as many places as there are ______ in the divisor.

Children collected $125.00 for a school play. If they sold 100 tickets, what was the cost of each ticket? ______

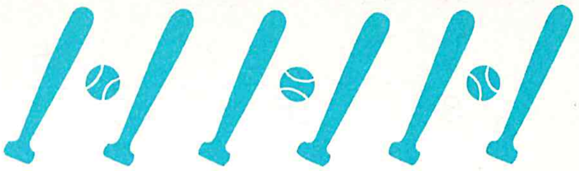
Multiply or divide by a power of 10.

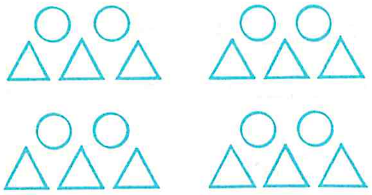
6.1 ______ = 610
25 ______ = 2.5
3.8 ______ = 38

704 ______ = 7.04
63.7 ______ = 6.37
.03 ______ = 3

815 ______ = .815
4.29 ______ = 4290
7 ______ = .07

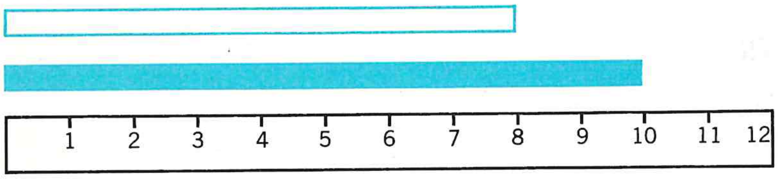
The ratio of baseball bats to baseballs is __6__ to __3__ or __2__ to __1__.
The ratio of baseballs to bats is ____ to ____ or ____ to ____.
There are ________ as many bats as baseballs.





The ratio of circles to triangles is ____ to ____ or ____ to ____ or ____ to ____.
The ratio of triangles to circles is ____ to ____ or ____ to ____ or ____ to ____.

For every 8 circles there are ____ triangles.
For every 4 circles there are ____ triangles.
For every ____ circles there are 3 triangles.



The ratio of the length of the dark colored rod to the length of the light colored rod is ____ to ____ or ____ to ____.

1 week to 1 day 7 to 1 or 7:1 | 1 foot to 5 inches 12 to 5 or 12:5

Write each ratio in simplest form.

1 ounce to 1 lb. ________
1 dozen to 1 ________
1 inch to 1 yard ________
1 dime to 1 dollar ________

1 hour to 20 minutes ________
1 quarter to 1 dime ________
7 ounces to 1 pound ________
2 quarts to 3 pints ________

Complete the table of ratios.

A	1	2	3		5	8		14	20
B	7	14		28			70		

What is the ratio of A to B? ________
What is the ratio of B to A? ________

Complete the tables of ratios.

C	1	2	3		7		25
D	4	8		16		48	

X	3	6	9		21	
Y	5	10		20	35	100

Fill in the blanks.

The ratio of C to D is 1:4
The ratio of _____ to _____ is 4:1

The ratio of C to D can be
$\frac{1}{4}$ or $\frac{25}{100}$ or _____%

The ratio of _____ to _____ is 3:5
The ratio of _____ to _____ is 5:3

The ratio of X to Y can be
$\frac{3}{\quad}$ or $\frac{\quad}{100}$ or _____%

Fill in.

90% means $\frac{\quad}{100}$ or the ratio of _____ to 100.

25% means $\frac{\quad}{100}$ or the ratio of _____ to 100.

85% means $\frac{85}{\quad}$ or the ratio of 85 to _____.

_____% means $\frac{70}{100}$ or the ratio of 70 to _____.

_____% means $\frac{15}{100}$ or the ratio of _____ to 100.

If a team won 75% of the 20 games it played,
what fraction of its games did it win? _____

How many games did the team win? _____

Write these ratios as decimals.

$\frac{3}{10}$ _____
9:10 _____

$\frac{1}{4}$ _____
2:5 _____

$\frac{79}{100}$ _____
39:50 _____

$\frac{3}{2}$ _____
3:8 _____

Write these ratios as percents.

$\frac{7}{10}$ _____
1:10 _____

$\frac{3}{4}$ _____
4:5 _____

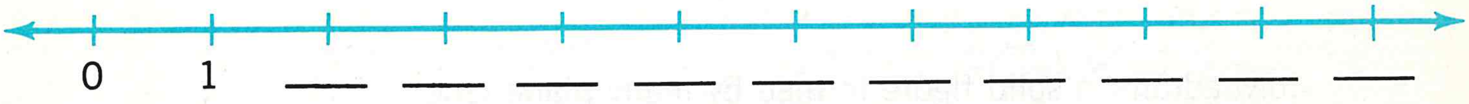
$\frac{83}{100}$ _____
13:25 _____

$\frac{5}{4}$ _____
1:1 _____

Write the set of
counting numbers {____, ____, ____, ____, ____, ____, ____, . . .}
whole numbers {____, ____, ____, ____, ____, ____, ____, . . .}
integers {. . ., ____, ____, ____, 0, ____, ____, ____, . . .}

What kind of number is not mentioned in any of the 3 sets above? ______________ Give an example. ______

Complete.



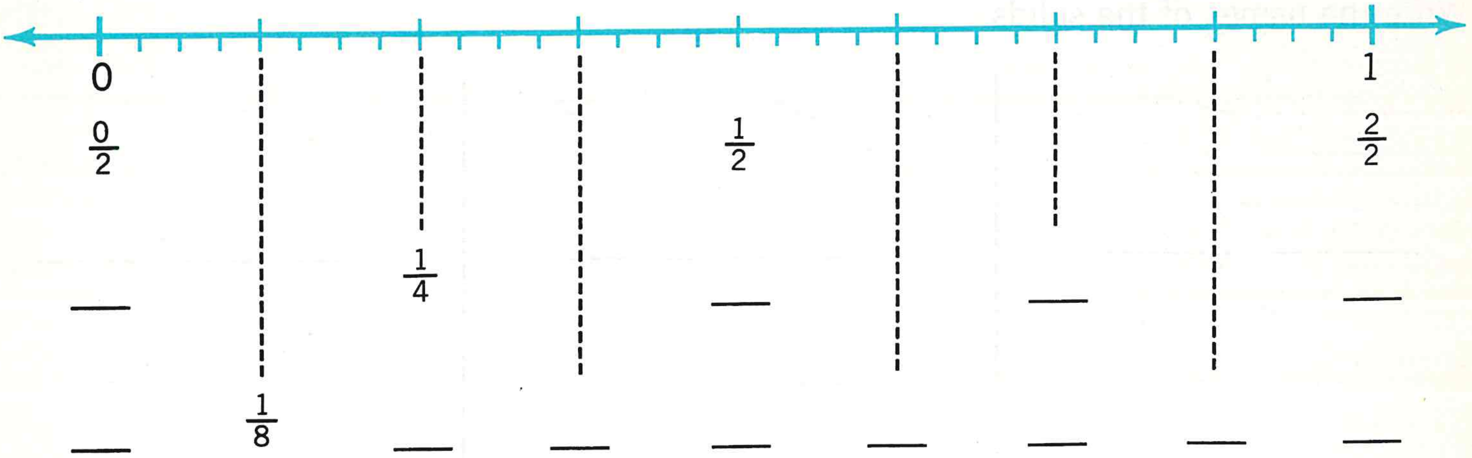
Write the whole number which is halfway between:

1 and 3 ____
2 and 8 ____
0 and 6 ____

5 and 11 ____
3 and 9 ____
1 and 7 ____

2 and 10 ____
0 and 4 ____
3 and 4 ____

Complete.



Write the rational number which is halfway between:

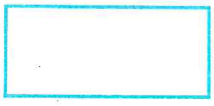
0 and 1 ____
0 and $\frac{1}{2}$ ____
0 and $\frac{1}{4}$ ____

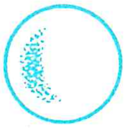
0 and $\frac{3}{4}$ ____
0 and $\frac{3}{8}$ ____
0 and $\frac{3}{16}$ ____

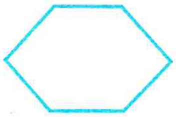
$\frac{3}{8}$ and $\frac{1}{2}$ ____
$\frac{3}{8}$ and $\frac{7}{16}$ ____
$\frac{5}{16}$ and $\frac{3}{4}$ ____

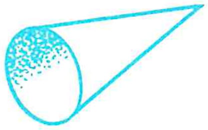
Is there always a point halfway between two other points? ______

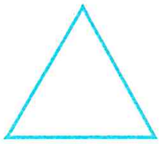
Ring the pictures of solids.

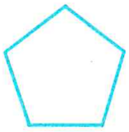


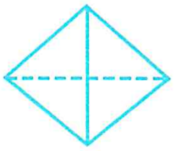


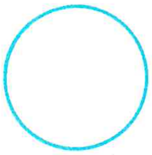




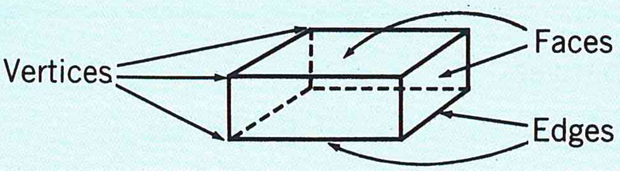








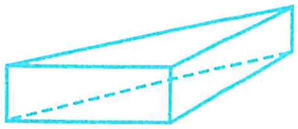
Polyhedron — a solid figure formed by many plane faces.



The top and bottom faces are called *bases.*

Prism — a solid which has 2 congruent parallel bases and whose other faces are parallelograms.

Write the names of the solids.



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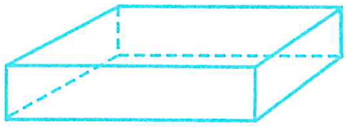

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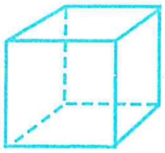

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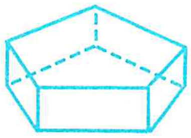

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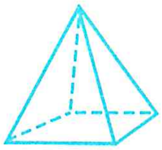

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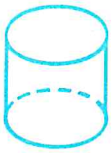
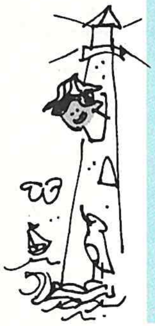


____

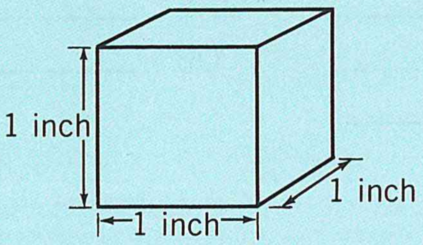
Complete the chart.

Figure	No. of vertices	+	No. of faces	=	No. of edges + 2	
Triangular prism	____	+	____	=	____	+ 2
Cube	____	+	____	=	____	+ 2
Square pyramid	____	+	____	=	____	+ 2
Pentagonal prism	____	+	____	=	____	+ 2

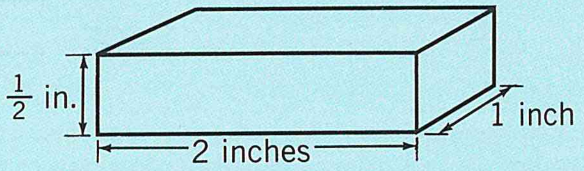


Volume is the measure of space enclosed by the surfaces of a 3-dimensional figure.

The following are examples of solids which have a volume of 1 cubic inch.

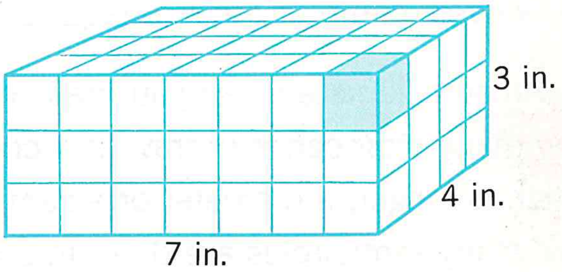


1 in. × 1 in. × 1 in. = 1 cu. in.



$\frac{1}{2}$ in. × 2 in. × 1 in. = 1 cu. in.

How many cubic inches, such as the shaded one, are in a rectangular solid 7 in. long, 4 in. wide, and 3 in. high?



Volume = length × width × height
V = ____ × ____ × ____
V = ____ cubic inches

Find the volume of the following rectangular solids.

l = 4 in. V = l × w × h
w = 3 in. V = ____ × ____ × ____
h = 2 in. V = ____________

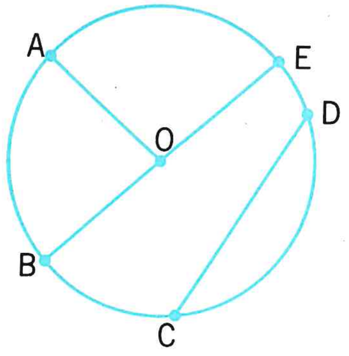
l = 5 ft. V = l × w × h
w = 4 ft. V = ____ × ____ × ____
h = 3 ft. V = ____________

l = 8 in. V = l × w × h
w = 5 in. V = ____ × ____ × ____
h = 4 in. V = ____________

l = 40 ft. V = l × w × h
w = 25 ft. V = ____ × ____ × ____
h = 10 ft. V = ____________

Find the volume of a cube which measures 5 inches on each edge.

$V = e^3$ or $V = e \times e \times e$
V = ____
V = ____________



Identify the parts of the circle.

O center of circle

OA ________

$\overset{\frown}{AB}$ ________

BOE ________

$\overline{CD}$ ________

AOE ________

$\overset{\frown}{BCDE}$ ________

OB ________

$\overset{\frown}{DE}$ ________

$\overset{\frown}{BAE}$ ________

OE ________

The name give for the distance around a polygon is ________.

The name given for the distance around a circle is ________.

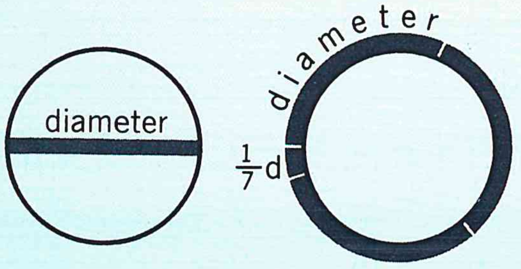
The longest chord in a circle is ________.

How many diameters can you draw in a circle? ________

How many radii can you draw in a circle? ________

Which is longer, a diameter or a semicircle? ________

How many semicircles are there in a circle? ________



$\pi = 3\frac{1}{7}, \frac{22}{7}$, or 3.14

Circumference $= 3\frac{1}{7} \times d$

Circumference $= \pi \times d$

$C = \pi d$

Find the circumference of the circles.

$d = 7 \quad \pi = \frac{22}{7}$

$C = \pi d$

$C = \frac{22}{7} \times \frac{7}{1}$

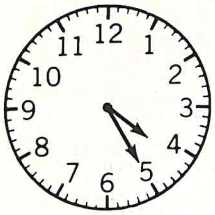
C = ____

$d = 14 \quad \pi = \frac{22}{7}$

$d = 35 \quad \pi = \frac{22}{7}$

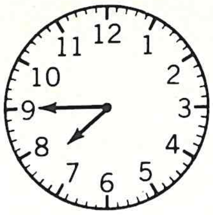
$d = 10 \quad \pi = 3.14$

Write in the correct time or draw in the clock hands or both.

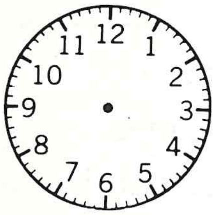


4:25

+ 3 hours 20 min. =

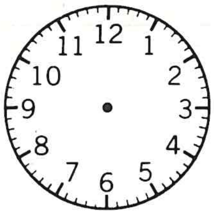


7:45



6:38

+ 4 hours 13 min. =



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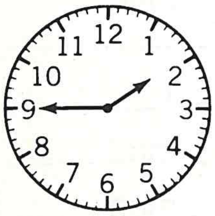

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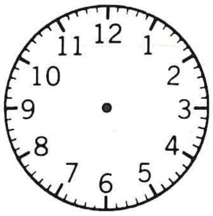
+ 6 hours 34 min. =



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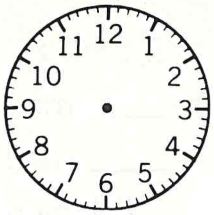
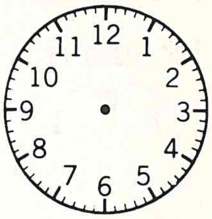


3:23

+ 2 hours 35 min. =



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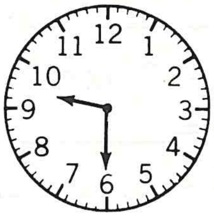
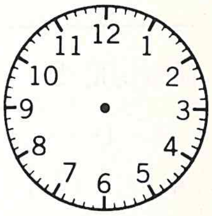


______

+ 5 hours 41 min. =



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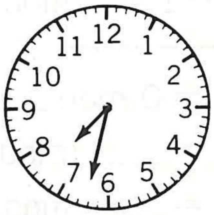
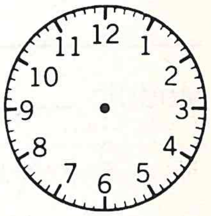


______

+ 6 hours 49 min. =



______

New York to San Juan, Puerto Rico

Flight Number		57	21	31	93
New York	Lv.		9:10		
Miami	Lv.	9:45		8:20	9:55
Montego Bay	Ar.	11:50		10:25	11:10
	Lv.	12:25		11:00	11:35
Kingston	Ar.	12:55	11:50	11:30	12:05
	Lv.		12:40	12:05	13:10
Montego Bay	Ar.		13:10		
Port-au-Prince	Ar.			13:25	14:30
	Lv.			13:55	14:55
Santo Domingo	Ar.			14:45	15:45
	Lv.			15:20	16:10
San Juan	Ar.			17:25	18:15

What is the meaning of the time 17:25?
______ 14:30? ______

How long does it take to fly from New York to Montego Bay? ______

What is the flight number of the plane which flies to Montego Bay? ______

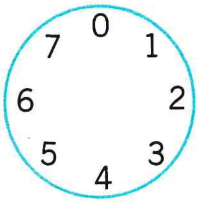
How long does it take flight 57 to fly from Miami to Kingston? ______

How long does it take flight 93 to travel from Miami to Port au Prince? ______

Which flight takes the shortest time to fly from Miami to San Juan?
How long does this flight take? ______

Use the diagrams on the left to find the answer to each set of problems.

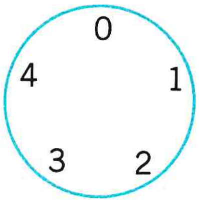
Modulo 8



6 + 5 = 3 mod 8
4 + 4 = ____ mod 8
6 + 6 = ____ mod 8
5 + ____ = 4 mod 8
____ + 6 = 2 mod 8

6 × 3 = 2 mod 8
4 × 2 = ____ mod 8
3 × 5 = ____ mod 8
5 × ____ = 6 mod 8
____ × 7 = 2 mod 8

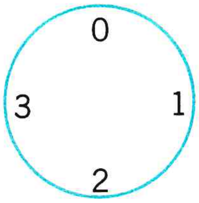
Modulo 5



3 + 4 = 2 mod 5
2 + 3 = ________
4 + 4 = ________
2 + ____ = 4 mod 5
____ + 1 = 0 mod 5

3 × 4 = 2 mod 5
2 × 2 = ____ mod 5
4 × 2 = ____ mod 5
1 × ____ = 0 mod 5
____ × 3 = 4 mod 5

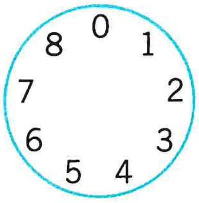
Modulo ____



2 + 2 = 0 mod ____
1 + 3 = ____ mod ____
0 + 2 = ____ mod ____
3 + ____ = 1 mod ____
____ + 0 = 1 mod ____

3 × 3 = 1 mod ____
2 × 1 = ____ mod ____
1 × 3 = ____ mod ____
2 × ____ = 0 mod ____
____ × 1 = 1 mod ____

Modulo ____



6 + 8 = 5 mod ____
5 + 4 = ____ mod ____
3 + 7 = ____ mod ____
6 + ____ = 3 mod ____
____ + 3 = 8 mod ____

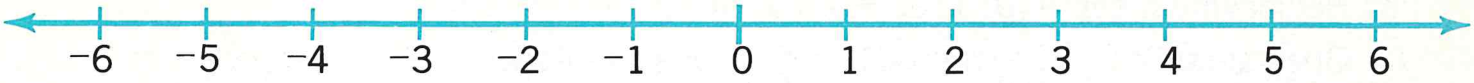
4 × 7 = 1 mod ____
5 × 8 = ____ mod ____
7 × 7 = ____ mod ____
6 × ____ = 6 mod ____
____ × 4 = 5 mod ____

Complete the addition and multiplication tables for modulo 7.

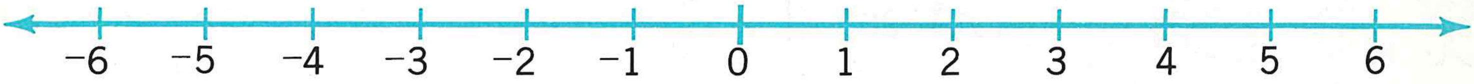
+	0	1	2	3	4	5	6
0	0	1	2	3			
1	1						
2	2			5	6	0	1
3				6			
4		5	6	0	1	2	
5						3	
6	6		1	2			5

×	0	1	2	3	4	5	6
0	0	0	0	0			
1		1	2				6
2				6	1	3	
3		3	6	2			
4	0		1	5	2		
5	0			1		4	
6	0		5		3		1

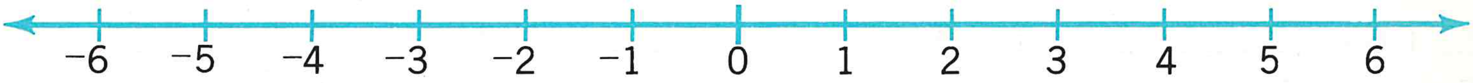
Graph the point 2.



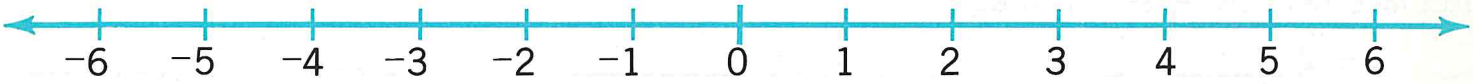
Graph all the counting numbers greater than 2 but less than 6.



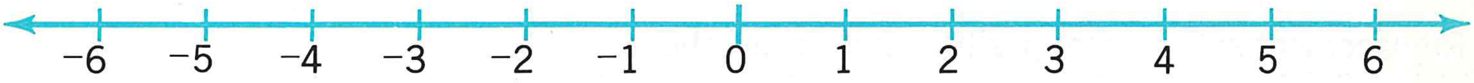
Graph all the counting numbers.



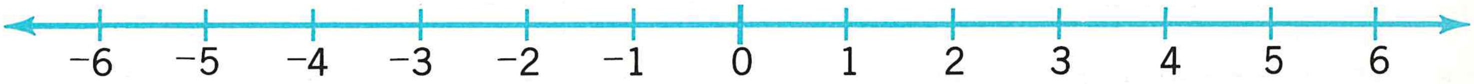
Graph all the integers less than 3 but greater than $^{-}4$.



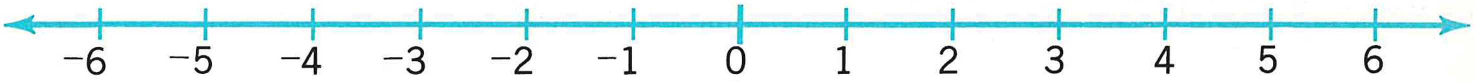
Graph all the integers less than or equal to $^{-}4$.



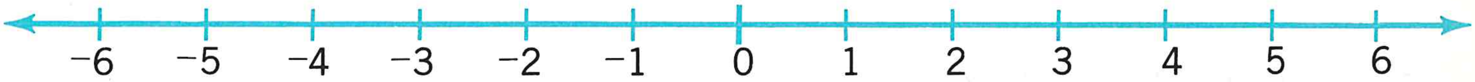
Graph all the rational numbers between $^{-}2$ and 4.



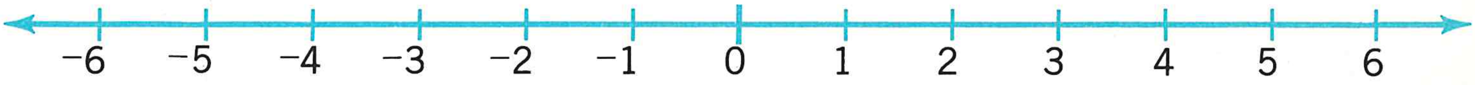
Graph all the rational numbers greater than or equal to 0 and less than 5.



Graph all the rational numbers greater than $^{-}1\frac{1}{2}$ and less than or equal to $2\frac{1}{4}$.



Graph all the rational numbers less than $^{-}3$ or greater than 3.



Replacement set $= \{0, 1, 2, 3, 4, 5, 6\}$

Open sentence	Truth set	Open sentence	Truth set
$\square + 3 = 6$	$\{3\}$	$\square - 2 = 4$	$\{6\}$
$\square + 3 > 6$	$\{4, 5, 6\}$	$\square - 2 < 4$	$\{0, 1, 2, 3, 4, 5\}$
$\square + 3 < 6$	$\{0, 1, 2\}$	$\square - 2 > 4$	$\{\ \}$

Find the truth set for each open sentence.

Replacement set $= \{4, 5, 6, 7\}$

$\square + 6 < 9$ ____________

$5 + \square > 10$ ____________

$9 - \square > 2$ ____________

$4 \times \square = 28$ ____________

$\square \times 2 < 15$ ____________

$\square \times \square > 50$ ____________

Replacement set $=$ set of integers

$\square + 6 = 4$ ____________

$\square + 5 > 3$ ____________

$\square + 8 < 9$ ____________

$7 - 8 = \square$ ____________

$10 - 5 < \square$ ____________

$9 + \square = 5$ ____________

Replacement set $=$ set of positive rational numbers

$\frac{3}{4} + \square = 1$ ____________

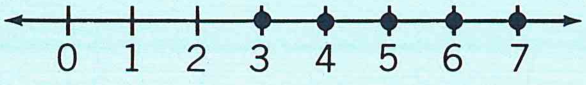
$\frac{1}{2} - \frac{1}{8} = \square$ ____________

$\square + \frac{1}{3} = \frac{1}{6}$ ____________

$\frac{4}{5} - \frac{4}{5} < \square$ ____________

Graph of the solution set

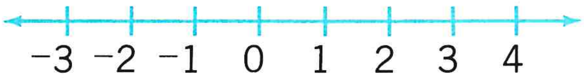
$\square + 3 > 5$



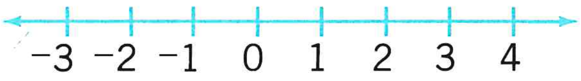
Replacement set $=$ set of integers

Graph each solution set. Replacement set $=$ set of integers

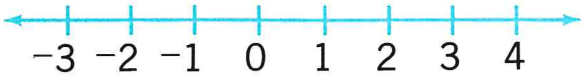
$\square + 8 = 6$



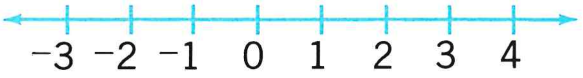
$\square + 4 > 1$



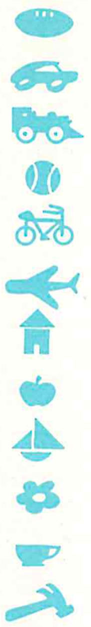
$\square + 2 < 4$



$\frac{1}{2} + \square = 3$



Try to identify the location of each object on the graph by writing the ordered pair of numbers next to the matching object on the left.



______
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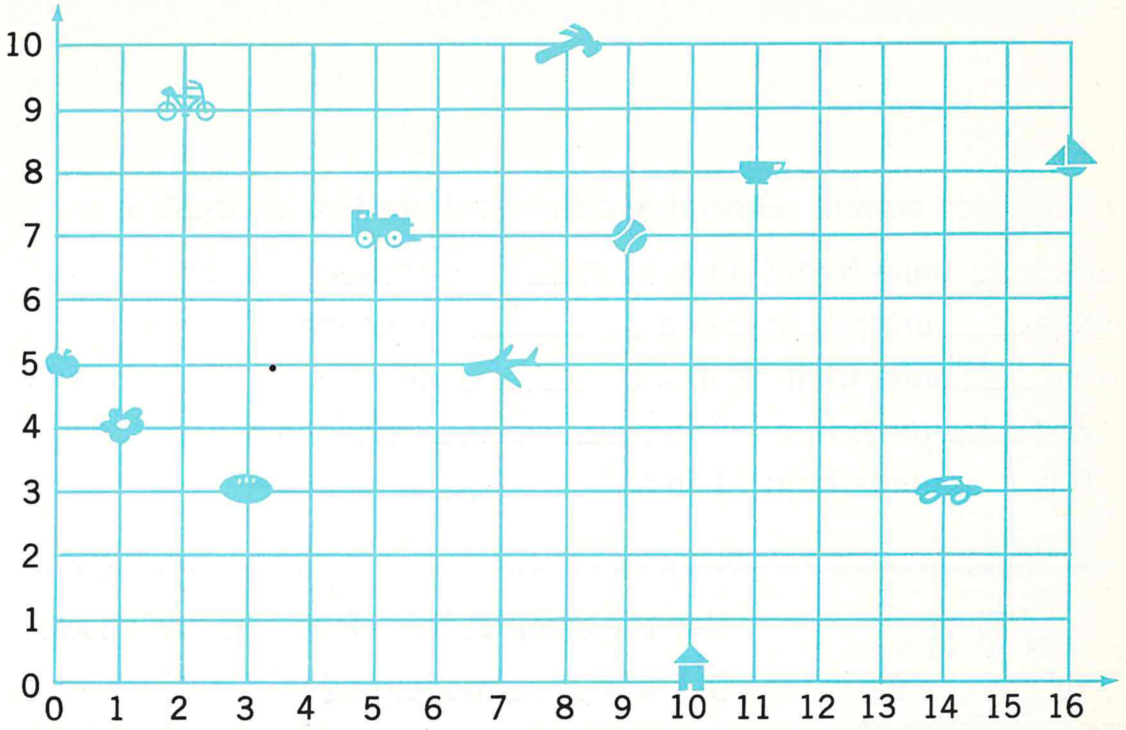
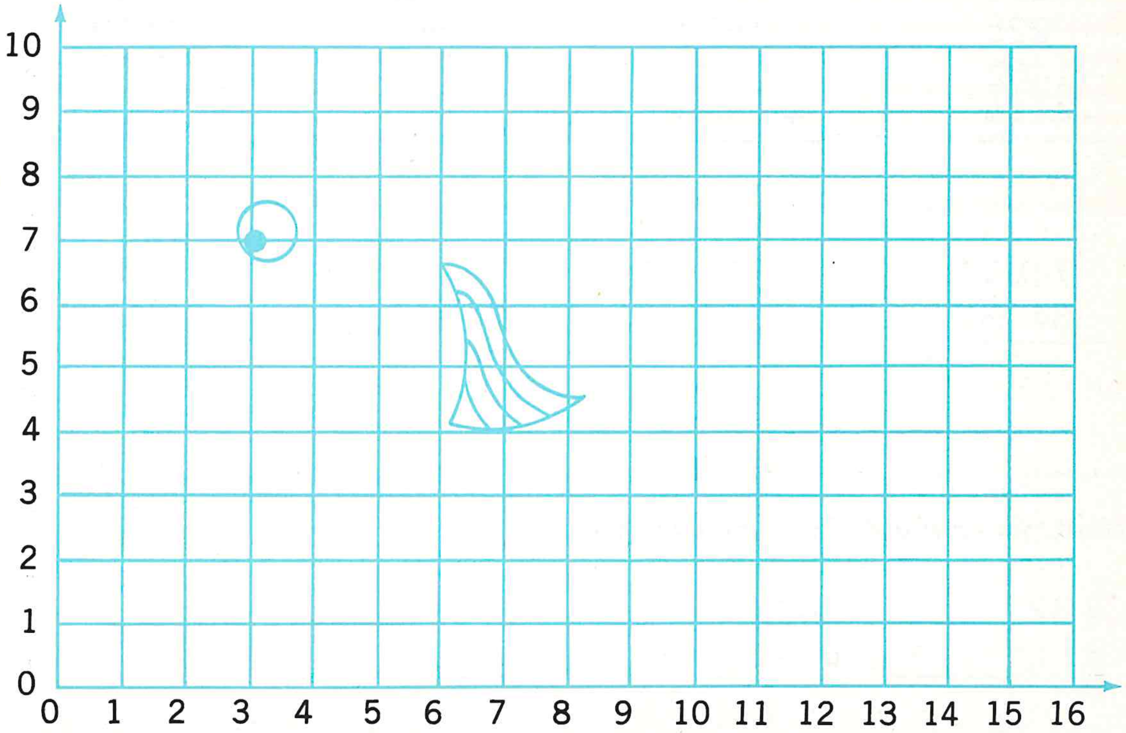
______



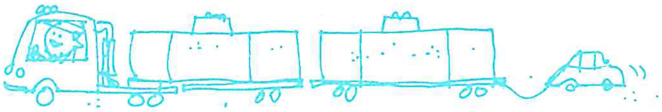
Graph each pair of numbers. Label each point with the letter for the ordered pair of numbers. Connect the dots in order with straight line segments.

A(0, 5)
B(2, 8)
C(4, 9)
D(7, 9)
E(11, 7)
F(13, 7)
G(16, 10)
H(15, 5)
I(16, 0)
J(13, 3)
K(11, 3)
L(7, 1)

M(4, 1)
N(2, 2)
$O(\frac{1}{2}, 4)$
P(3, 5)



Testing



Fill in each correct numeral and the word positive or negative.

2 is ____ units from 0 in a __________ direction.

$^{-}5$ is ____ units from 0 in a __________ direction.

4 is ____ units from $^{-}2$ in a __________ direction.

$^{-}2$ is ____ units from $^{-}4$ in a __________ direction.

$^{-}6$ is ____ units from $^{-}1$ in a __________ direction.

Find the sums.

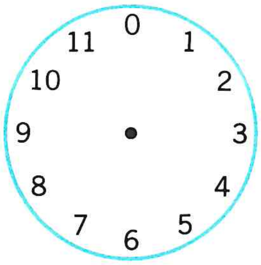
$^{+}3 + {}^{+}6 =$ ____

$^{+}7 + {}^{-}2 =$ ____

$^{+}1 + {}^{-}4 =$ ____

$^{-}2 + {}^{-}3 =$ ____

$^{-}5 + {}^{+}5 =$ ____



Use the clock at the left to find the answers.

$5 + 4 =$ ____ modulo 12

$8 + 7 =$ ____ modulo 12

$6 + 11 =$ ____ modulo 12

$10 +$ ____ $= 6$ modulo 12

$3 + 9 =$ ____ mod 12

$11 +$ ____ $= 4$ mod 12

____ $+ 7 = 2$ mod 12

$4 + 4 =$ ____ mod 12

$$\begin{array}{r} 3041 \\ 225 \\ 1462 \\ +\,4750 \\ \hline \end{array} \qquad \begin{array}{r} 4175 \\ 1802 \\ 594 \\ +\,2360 \\ \hline \end{array} \qquad \begin{array}{r} 813 \\ \times 241 \\ \hline \end{array} \qquad \begin{array}{r} 745 \\ \times 602 \\ \hline \end{array}$$

$$\begin{array}{r} 7483 \\ -\,6459 \\ \hline \end{array} \qquad \begin{array}{r} 5027 \\ -\,1469 \\ \hline \end{array} \qquad 21\overline{)195} \qquad 73\overline{)2979}$$

Multiply or divide by a power of ten.

24.32 ________ = 2432

81.5 ________ = 8.15

.3 ________ = .003

2761 ________ = 2.761

5.039 ________ = 50.39

.6 ________ = 60

Simplify.

$\frac{6}{9} =$ ______

$\frac{45}{100} =$ ______

$\frac{50}{3} =$ ______

$14\frac{17}{5} =$ ______

Write >, <, or =.

$\frac{4}{5}$ --------- $\frac{17}{20}$

$\frac{13}{78}$ --------- $\frac{1}{6}$

$5\frac{8}{5}$ --------- $2\frac{23}{5}$

$1\frac{7}{13}$ --------- $\frac{3}{2}$

Find the sums. Find the differences.

$$\begin{array}{r} 3\frac{2}{3} \\ 5\frac{3}{4} \\ 1\frac{1}{2} \\ \hline \end{array} \qquad \begin{array}{r} 17\frac{1}{5} \\ 9\frac{1}{2} \\ 20\frac{1}{3} \\ \hline \end{array} \qquad \begin{array}{r} 8\frac{9}{10} \\ -4\frac{2}{5} \\ \hline \end{array} \qquad \begin{array}{r} 13\frac{2}{7} \\ -6\frac{1}{2} \\ \hline \end{array}$$

Find the products. Find the quotients.

$3\frac{3}{5} \times 1\frac{1}{9} =$

$7\frac{1}{7} \times 4\frac{1}{5} =$

$\frac{8}{15} \div \frac{2}{5} =$

$3\frac{3}{4} \div \frac{5}{16} =$

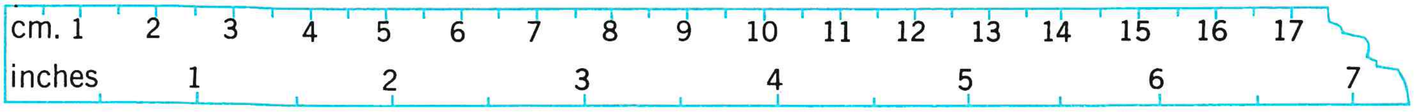
Compute.

$$\begin{array}{r} \$8.47 \\ 2.61 \\ 11.09 \\ \hline \end{array} \qquad \begin{array}{r} 6.091 \\ 43.5 \\ 2.64 \\ \hline \end{array} \qquad \begin{array}{r} \$10.00 \\ -6.38 \\ \hline \end{array} \qquad \begin{array}{r} 14.608 \\ -9.349 \\ \hline \end{array}$$

$$\begin{array}{r} 415 \\ \times .38 \\ \hline \end{array} \qquad \begin{array}{r} 8.09 \\ \times 7.2 \\ \hline \end{array} \qquad .07\overline{).147} \qquad 2.1\overline{)43.12}$$

Find the volume of a rectangular solid
8 in. long, 5 in. wide, and 3 in. high. ________________

Metric units	Length	Weight
Kilo — 1000	______meter = 1000 m.	______gram = 1000 g.
Hekto — 100	Hektometer = ______ m.	______gram = 100 g.
Deka — 10	Dekameter = ______ m.	Dekagram = ______ g.
— 1	Meter = 1 m.	Gram = 1 g.
Deci — $\frac{1}{10}$	______meter = $\frac{1}{10}$ m.	Decigram = ______ g.
Centi — $\frac{1}{100}$	Centimeter = ______ m.	______gram = $\frac{1}{100}$ g.
Milli — $\frac{1}{1000}$	______meter = $\frac{1}{1000}$ m.	Milligram = ______ g.



The picture above shows length in ______ and in ______.

1 inch in length is approximately equal to ______ centimeters in length.

6 inches is approximately equal to ______ centimeters.

1 foot is equal to about ______ centimeters.

1 yard is equal to about ______ centimeters.

1 meter is equal to ______ centimeters.

Which is bigger, 1 yard or 1 meter? ______

1 kilometer is equal to ______ meters.

1 mile is equal to ______ yards.

Which is bigger, 1 mile or 1 kilometer? ______

Kilometer	Hektometer	Dekameter	Meter	Decimeter	Centimeter	Millimeter
.003			3		300	
		2.5				25,000
.741					74,100	
	36.18			36,180		

Ring the best answer. (Km. means kilometer, mm. means millimeter.)

The teacher is about (1.6 km. 1.6 m. 1.6 mm. 16 m.) tall.

A mile walk is about (.6 km. 6 km. 1.7 km. 17 km.).

John drove 20 km. He drove about (1.2 miles 120 miles 12 miles 30 miles).

Complete the sequences.

10, 20, _____, 40, _____, 60, _____, _____, 90
2, 4, 6, 8, _____, _____, _____, _____, _____
_____, _____, 9, 12, 15, 18, _____, _____, _____
_____, _____, _____, _____, _____, 30, 35, 40, 45
9, 18, 27, _____, _____, _____, _____, 72, 81
_____, _____, _____, 16, 20, 24, 28, _____, _____

Ring the numbers which are divisible by 10 (multiples of 10).

56 100 607 210 1492 3006 7810 43,090

How can you tell if a number is divisible by 10?

____

Ring the numbers which are divisible by 2.

38 49 310 483 3416 51,734 24,681 67,512

How can you tell if a number is divisible by 2?

____

Ring the numbers which are divisible by 5.

56 30 75 502 735 1004 41,375 24,690

How can you tell if a number is divisible by 5?

____

Answer TRUE or FALSE to each sentence.

All numbers which are divisible by 10 are also divisible by 2. _______
All numbers which are divisible by 5 are also divisible by 10. _______
All numbers which are divisible by 2 are also divisible by 4. _______
Some numbers which are divisible by 2 are also divisible by 5. _______
All numbers which are divisible by 4 are also divisible by 2. _______

Use the parenthesis, ( ), and any of the operations +, −, ×, ÷, to make these statements true.

(5 ⊖ 5) ⊗ 5 = 0
5 ○ 5 ○ 5 = 2
5 ○ 5 ○ 5 = 4
5 ○ 5 ○ 5 = 5
5 ○ 5 ○ 5 = 6

5 ○ 5 ○ 5 = 15
5 ○ 5 ○ 5 = 20
5 ○ 5 ○ 5 = 30
5 ○ 5 ○ 5 = 50
5 ○ 5 ○ 5 = 125

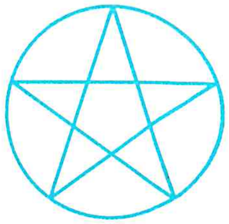
Fill in the empty squares with numbers so that the sum will be the same horizontally, vertically, and diagonally.

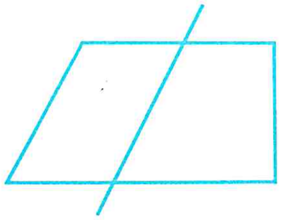
1			
12			
8			
13	3	2	16

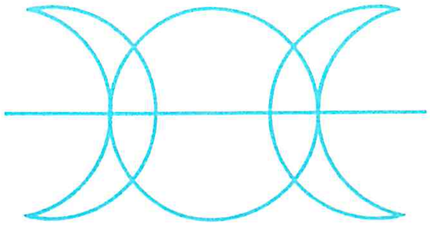
$\frac{2}{3}$		$\frac{1}{2}$
	$\frac{5}{12}$	
$\frac{1}{3}$		$\frac{1}{6}$

+8	−6		+5
	−1	−2	+4
−4	+6	+7	−7

Trace the figures without lifting your pencil or pen from the paper and without retracing any of the lines.







Four times a number decreased by 7 is 37. Find the number. ______

Complete the tables. Write the equation for each table.

□	1	2	3	10	
△	4	7	10		76

____

□	1	2	3	4	5	
△	4	7	12			103

____

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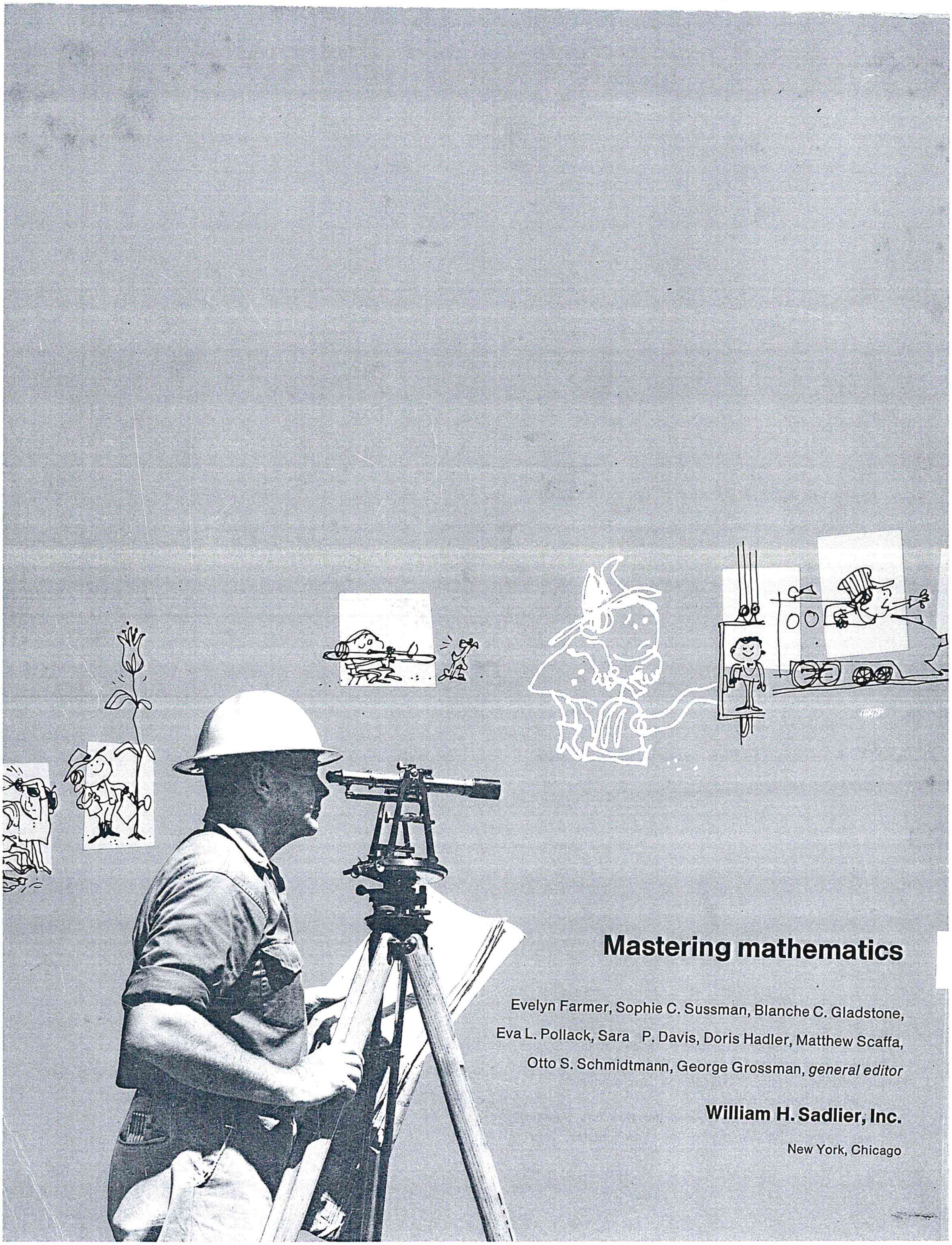

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